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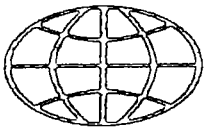
OCTOBER 2013
DATA QUALITY REPORT
AND DATABASE UPDATE
GREENFIELD ENVIRONMENTAL
MULTISTATE TRUST LLC
SODA SPRINGS, IDAHO FACILITY

December 13, 2013

Prepared by:



GLOBAL ENVIRONMENTAL TECHNOLOGIES L.L.C.

SALT LAKE CITY, UTAH

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December 13, 2013

Lauri Gorton, P.E.
2116 E. Estes
Milwaukee, WI 53207

RE: TRANSMITTAL: OCTOBER 2013 LABORATORY DATA QUALITY REPORT AND RD/RA DATABASE UPDATE, TRONOX INC. SODA SPRINGS, IDAHO FACILITY

Dear Lauri:

Please find transmitted the October 2013 Data Validation Report and the updated Remedial Design/Remedial Action (RD/RA) database. This report and the updated RD/RA database are produced on CD in order to streamline report production and data transmission, and to conserve paper resources. The report is saved in Adobe Portable Document Format (.pdf) and can be viewed and printed using the commonly available Adobe Acrobat Reader™.

The RD/RA database includes ground and surface water sampling analytical results between May 1995 and October 2013. As we have previously requested by EPA, we have not included QA/QC samples (equipment blanks, matrix spikes and matrix spike duplicates) from the RD/RA database. The RD/RA database was constructed from the master ground water analytical database that included the RI/FS results.

We appreciate the opportunity to work with you on this project. If you have any questions regarding this transmittal, please contact us.

Very truly yours,
Global Environmental Technologies, LLC

J. S. Brown

John S. Brown, P.G.
Principal/Owner

Attachments: Validation Report and Current RD/RA Database Update–CD

xc: Bill Ryan — EPA Region X – (4 hard copies; 4 -CD copies)
Doug Tanner — IDEQ Pocatello – CD copy
Dean Nygard — IDEQ Boise - CD copy
Clyde Cody - IDEQ Boise - CD copy
Marc Weinreich - Greenfield Environmental Multistate Trust LLC - CD Copy

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1.0 INTRODUCTION

This data validation report presents the findings of our review of field and laboratory data and summarizes our opinion of the quality and usability of the data for the Remedial Design/Remedial Action (RD/RA) at the former Tronox Soda Springs, Idaho facility. The facility is no longer in operation and the property is managed by the Greenfield Environmental Multistate Trust.

Data validation presented in this report was performed using EPA guidelines. Organic and inorganic analytical results and supporting documentation were reviewed to assess data quality and usability for samples that were collected between October 6 and October 8, 2013. The October 2013 sampling event included surface water sampling and low-flow sampling protocols, as approved by EPA on September 23, 1997.

Samples were obtained from on-site and from off-site ground and surface water sampling locations. Sampled locations are shown on Figure 1. Field water quality measurements are presented in Table 1. Selected low flow sampling parameters obtained during stabilization of the wells are shown on Figures 2 through 17.

Appendix A to this report contains the Remedial Design/Remedial Action (RD/RA) analytical database, starting in May 1995. This database contains analytical data supplied by the laboratory following the completion of the Remedial Investigation/Feasibility Study (RI/FS) study. The data set contained within the database in Appendix A was prepared at the request of Region 10 EPA on September 23, 1997. Quality assurance/quality control (QA/QC) samples were evaluated as required by the guidelines, but QA/QC samples are not incorporated into the RD/RA database.

The evaluation criteria used were those outlined in the USEPA Laboratory Data Validation Functional Guidelines for Evaluating Organic and Inorganic Analyses. The sample names referred to in this report are those supplied by sampling personnel and used by the laboratory in labeling and reporting results.

Samples collected, collection sequence and analyses performed for the October 2013 sampling round are summarized in Table 2. Ground water parameters and analytical methods are presented in Table 3. Test America of Arvada, Colorado performed all of the laboratory analyses.

One duplicate sample was obtained during the round. The sample identified as OCT13 is a blind duplicate collected from well KM-6. The lab performed selected duplicate analyses from wells KM-4, KM-11, KM-19, Upper Ledger, Lower Ledger and Big Spring for selected general chemistry parameters as required for data set quality assurance and control.

Matrix spike and matrix spike duplicate samples were obtained from well KM-11. The lab also performed matrix spikes and spike duplicates from wells KM-18, KM-19, and OCT13 for selected general chemistry parameters as required for data set quality assurance and control.

Some organic tentatively identified compound (TIC) names are truncated in the database column labeled "chemical name". This is a result of the CLP electronic data format provided from the laboratory that limits the reporting field length to 27 characters. This reporting format was requested by EPA at the beginning of the RI/FS. Therefore, TIC appearing to be identical in the chemical name field as the result of the field truncation should be distinguished and identified by their unique CAS number.

2.0 ORGANICS

2.1 Holding Times

The holding times for the semi-volatile (SVOA) and total petroleum hydrocarbons C-10 to C36 (TPH) diesel range organics (DRO) analyses were assessed by comparing the sampling date with the date and time of analysis and preparation. All analyses for SVOA were performed within established (40 CFR 136) holding times, which are seven days from sample collection to extraction and forty days from extraction to analysis. Data reports indicate that extraction was performed within one day following receipt at the laboratory and analyzed within five days following extraction.

2.2 Calibration

Compliance requirements for satisfactory instrument calibration are established to ensure that the instrument is capable of producing acceptable quantitative data. Initial calibration demonstrates that the instrument is capable of acceptable performance prior to sample analysis. Continuing calibration checks document satisfactory maintenance and adjustment of the instrument on a day-to-day basis. GC/MS and performance criteria are established to ensure mass resolution, identification, and sensitivity. Decafluorotriphenylphosphine (DFTPP) ion abundance criteria are used to check performance. GC/MS initial calibration review checklists indicated that the percent relative ion abundance was found to be acceptable in the lab.

An initial calibration curve is prepared for each analyte of interest. Five or more calibration standards are injected. A response factor is calculated by dividing the area of response of the characteristic ion by the concentration of each compound. Initial calibration conditions were verified by assessing the percent relative standard deviations (percent RSD $\leq$ 15 - 25% (DRO)) for each target compound. All performance criteria specified in the method were met.

The continuing calibration checks document that the instrument is giving satisfactory daily

performance. Percent D (drift) compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Results fell within the allowable percent D during the continuing calibration checks.

2.3 Blank Analysis

The assessment of blank analysis is to determine the existence and magnitude of contamination problems resulting from laboratory or field activities. A method blank was analyzed in the lab as part of the semi-volatile QA. Blank contaminant compounds included Butane,2-methoxy-2-methyl-, 1-Propene, 1,2,3-trichloro-, (Z)- , and Cyclohexane. These results were flagged as estimated in the lab (J) because the results are greater than the instrument detection limit (IDL) but less than the reporting limits for these compounds.

2.4 Surrogate Spikes

Laboratory performance on individual samples is established by means of spiking the sample. Samples, laboratory control samples, laboratory control sample duplicates, and method blanks are spiked with surrogate compounds prior to sample preparation. Surrogate sample recovery must fall within the following acceptable ranges for the surrogate compounds:

Compound	QC Limits Water (Percent)
Nitrobenzene-d5	52 - 113
2-Fluorobiphenyl	48 - 104
Terphenyl-d14	41 - 138
Phenol-d5	46 - 120
2-Fluorophenol	41 - 117
2,4,6-Tribromophenol	48 - 126

The QC limits shown for water are those that have been reported to be acceptable for water analysis. Data are not qualified with respect to surrogate recovery unless 2 or more semi volatile surrogates within the same fraction (base neutral or acid fraction) are out of

specification. Percent recoveries were within acceptable range for surrogates for the samples from well KM-8.

2.5 Tentatively Identified Compounds (TIC)

Well KM-8 is the only well where ground water samples are obtained for organics analysis. TICs reported from the lab in the semi volatile analysis of ground water from well KM-8 for October 2013 included1(2H)-Isoquinolinone, 1-Propene, 1,2,3-trichloro-, (Z)-, 2-Fluoro-6-nitrophenol, 2-Pentanone, 4-hydroxy-4-methyl-, 3-Hydroxy-3-methyl-2-butanone, 4'-Aminobenzo[1',2'-b]-1,4-diazabicyclo, 6-Methyl-1,2,3,4-tetrahydroquinoline, Butane, 2-methoxy-2-methyl-, Cyclohexane, Oxirane, 2,2'-[oxybis(methylene)]bis-, Phosphoric acid, 1,1-dimethylethyl dieth and unknown compounds. Tributyl phosphate (phosphoric acid tributyl ester), previously analyzed as a TIC was identified as a target analyte in the sample from well KM-8 at a October 2013 concentration of 510 ug/l.

3.0 INORGANICS

3.1 Holding Times

The holding times for inorganic samples were assessed by comparing the sampling date with the date of analysis. Holding times were met for all inorganic analyses from the October 2013 sampling event.

3.2 Method Blank

The assessment of blank analytical results is required to determine the existence and magnitude of contamination problems. Contamination in the blank associated with the October 2013 sampling round included small concentrations of arsenic, bicarbonate, calcium, iron, magnesium, manganese, sodium and total dissolved solids. These compounds were detected in the method blank at levels above the method detection limit but below the reporting limit. The values should be considered estimates, and sample results associated with the blanks were flagged "J". If the associated sample reported a result above the method detection limit and/or the reporting limit, the result was "B" flagged by the lab.

3.3 Laboratory Control Samples (LCS)

The LCS monitors the overall performance of the steps in the preparation and analysis process for metals and general chemistry water quality parameters. Control samples were analyzed for each batch and results ranged from 76 to 113 percent recovery. All LCS were within the established control limits for each analyte.

3.4 Matrix Spike Sample Analysis

The matrix spike sample results from metals and general water quality parameters provide information about the effect of each sample matrix on the preparation and

measurement methodology. The sample obtained in the field for the matrix spike from the October 2013 round was KM-11. Matrix spikes of selected analytes from OCT13, KM-18 and KM-19 were also performed by the lab as required by the method. The acceptable range limits for matrix spike recovery vary per analyte. Matrix spike sample results ranged from 76 to 113 percent recovery, within acceptable ranges. However, Nitrate Nitrite as N failed the recovery criteria low for the MS of sample KM-18 and OCT13 which were flagged in the lab.

3.5 Matrix Spike Duplicate Sample Analysis

Laboratory duplicate analyses are indicators of laboratory precision based on each sample matrix. The sample used for the matrix spike duplicate for the October 2013 round was from well KM-11. Matrix spike duplicates of selected analytes from KM-18, KM-19, and OCT13 were also performed by the lab. The control limits for the relative percent difference (RPD) varies for metals and for general chemistry parameters. RPDs ranged from 0 to 2 percent for the metals group and 0 to 5 percent for the general chemistry parameters. These results are within the acceptable range (20 percent) for the matrix spike duplicate samples. However, Nitrate Nitrite as failed the recovery criteria low for the MSD of sample KM-18 and OCT13.

4.0 FIELD QUALITY CONTROL

One blind field duplicate was collected. The sample identified as OCT13 is a blind duplicate collected from well KM-6. The sample was submitted to the laboratory for an assessment of overall field and laboratory precision. Results of the sample and blind duplicate analyses are presented in Table 4. Relative percent differences were calculated for each analyte. The RPDs for the blind duplicate results ranged between 0 and 15 percent. These results are within the acceptable 20 percent criteria for chemical parameters for blind duplicate samples. Based on these results, the data are considered satisfactory for evaluation of both field and laboratory quality control.

5.0 DATA USABILITY

Completeness of the October 2013 data set was performed by calculating the percentage of valid data points to the total data set. The completeness criterion of at least 90 percent valid data was achieved. Data from the October 2013 sampling round are all considered usable for the purposes of this project for the evaluation of ground and surface water quality. Therefore, the quality objectives under the data validation guidelines for the methods used were met for laboratory analytical data. Data are considered acceptable and useable for the RD/RA evaluation of the former Tronox site.

TABLES

TABLE 1
OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS

SAMPLE ID	DATE	TIME (h:m:s)	FLOW (gpm)	DTW (feet)	VOL EVAC (total gal)	pH (units)	TEMP (degrees C)	COND (umhos/cm)	TURB (NTU)
KM-2	10/07/13	9:25:00		39.97	STATIC				
KM-2	10/07/13	9:28:00	0.4	40.05	0.50	7.33	9.70	1352	4.56
KM-2	10/07/13	9:31:00	0.4	40.04	2.40	7.34	10.10	1364	3.22
KM-2	10/07/13	9:36:00	0.4	40.04	4.50	7.34	11.10	1368	2.90
KM-2	10/07/13	9:41:00	0.4	40.04	6.60	7.34	11.60	1370	3.47
KM-2	10/07/13	9:45:00	0.4	40.04	8.30	7.34	11.80	1367	3.36
KM-3	10/07/13	10:46:00		29.47	STATIC				
KM-3	10/07/13	10:52:00	0.25	29.67	0.60	7.30	10.70	4090	2.64
KM-3	10/07/13	10:57:00	0.25	29.69	2.50	7.38	11.00	4130	2.24
KM-3	10/07/13	11:00:00	0.25	29.69	3.40	7.39	11.30	4190	2.69
KM-3	10/07/13	11:04:00	0.25	29.69	4.30	7.39	12.10	4260	1.82
KM-3	10/07/13	11:08:00	0.25	29.69	5.10	7.39	12.50	4290	1.80
KM-4	10/07/13	13:12:00		40.32	STATIC				
KM-4	10/07/13	13:15:00	0.8	40.52	2.80	7.09	10.60	1180	1.77
KM-4	10/07/13	13:20:00	0.8	40.51	6.00	7.13	11.00	1360	2.05
KM-4	10/07/13	13:26:00	0.8	40.51	11.40	7.15	11.40	1510	1.67
KM-4	10/07/13	13:33:00	0.8	40.51	15.70	7.16	11.50	1578	1.52
KM-4	10/07/13	13:43:00	0.8	40.51	23.40	7.18	11.60	1651	1.55
KM-4	10/07/13	13:47:00	0.8	40.51	25.50	7.18	11.60	1666	1.52
KM-4	10/07/13	13:52:00	0.8	40.51	32.40	7.19	11.60	1684	1.34
KM-5	10/08/13	10:03:00		36.83	STATIC				
KM-5	10/08/13	10:05:00	0.8	37.15	1.70	7.10	10.50	945	9.55
KM-5	10/08/13	10:09:00	0.8	37.13	5.60	7.10	10.90	943	2.85
KM-5	10/08/13	10:17:00	0.8	37.16	10.30	7.09	11.50	937	1.91
KM-5	10/08/13	10:22:00	0.8	37.15	15.60	7.09	11.50	936	2.02
KM-6	10/07/13	17:01:00		28.84	STATIC				
KM-6	10/07/13	17:07:00	0.50	28.88	2.80	6.98	11.50	1217	1.62
KM-6	10/07/13	17:15:00	0.50	28.85	5.50	7.01	12.00	1190	1.60
KM-6	10/07/13	17:19:00	0.50	28.85	8.20	7.02	12.10	1169	1.37
KM-6	10/07/13	17:21:00	0.50	28.85	10.20	7.03	12.10	1167	1.20
KM-6	10/07/13	17:24:30	0.50	28.86	12.20	7.03	12.10	1161	1.26
KM-6	10/07/13	17:27:00	0.50	28.86	13.90	7.03	12.10	1159	1.14
KM-7	10/08/13	10:39:00		40.63	STATIC				
KM-7	10/08/13	10:41:00	0.5	40.65	0.80	6.99	10.30	1005	4.48
KM-7	10/08/13	10:44:00	0.5	40.68	2.50	7.00	11.10	1007	2.55
KM-7	10/08/13	10:47:00	0.5	40.68	3.60	7.03	11.80	984	2.68
KM-7	10/08/13	10:50:00	0.5	40.68	5.50	7.04	12.00	976	2.27
KM-7	10/08/13	10:53:00	0.5	40.68	6.90	7.16	12.50	971	1.46
KM-8	10/08/13	15:24:00		32.73	STATIC				
KM-8	10/08/13	15:26:00	0.25	33.03	1.10	6.92	10.00	13120	113.00
KM-8	10/08/13	15:33:00	0.25	33.02	3.40	6.90	10.50	13070	28.30
KM-8	10/08/13	15:38:00	0.25	33.01	4.80	6.89	11.30	13070	22.60
KM-8	10/08/13	15:45:00	0.25	33.00	6.10	6.89	11.90	13380	21.60
KM-8	10/08/13	15:50:00	0.25	33.04	7.50	6.88	12.20	13700	21.50
KM-8	10/08/13	15:57:00	0.25	33.04	8.90	6.87	13.00	14250	22.40
KM-8	10/08/13	16:08:00	0.25	33.04	10.50	6.87	13.80	15070	27.00
KM-9	10/08/13	13:33:00		32.86	STATIC				
KM-9	10/08/13	13:46:00	0.25	33.21	3.30	7.03	11.60	869	4.69
KM-9	10/08/13	13:49:00	0.25	33.18	4.30	7.04	12.00	871	4.36
KM-9	10/08/13	13:52:00	0.25	33.14	4.60	7.04	12.60	875	3.72
KM-9	10/08/13	13:56:00	0.25	33.14	5.30	7.04	12.90	875	3.57

TABLE 1
OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS

SAMPLE ID	DATE	TIME (h:m:s)	FLOW (gpm)	DTW (feet)	VOL EVAC (total gal)	pH (units)	TEMP (degrees C)	COND (umhos/cm)	TURB (NTU)
KM-11	10/07/13	11:25:00		28.98	STATIC				
KM-11	10/07/13	11:37:00	0.7	29.16	6.50	7.11	11.20	887	1.75
KM-11	10/07/13	11:41:00	0.7	29.17	10.20	7.13	11.30	889	1.09
KM-11	10/07/13	11:44:00	0.7	29.20	12.70	7.12	11.50	888	2.16
KM-11	10/07/13	11:46:00	0.7	29.20	14.20	7.12	11.50	889	1.77
KM-12	10/08/13	14:47:00		31.38	STATIC				
KM-12	10/08/13	14:53:00	0.9	31.55	5.40	7.07	10.40	1011	2.29
KM-12	10/08/13	14:56:00	0.9	31.55	9.00	7.07	10.70	1012	1.93
KM-12	10/08/13	15:00:00	0.9	31.55	12.20	7.08	10.90	1012	1.53
KM-12	10/08/13	15:05:00	0.9	31.55	15.50	7.08	11.10	1012	2.28
KM-13	10/08/13	12:43:00		32.74	STATIC				
KM-13	10/08/13	12:46:00	0.3	33.05	0.40	7.19	10.50	917	2.62
KM-13	10/08/13	12:48:00	0.3	32.91	1.50	7.18	10.60	935	1.99
KM-13	10/08/13	12:52:00	0.3	32.88	2.90	7.12	11.20	949	1.97
KM-13	10/08/13	12:57:00	0.3	32.88	4.10	7.10	12.00	928	1.93
KM-13	10/08/13	13:01:00	0.3	32.88	5.90	7.09	12.50	916	2.32
KM-15	10/07/13	19:05:00		41.41	STATIC				
KM-15	10/07/13	19:07:00	0.4	41.71	0.90	7.05	10.10	945	2.65
KM-15	10/07/13	19:10:00	0.4	41.62	2.60	7.04	10.40	948	2.23
KM-15	10/07/13	19:15:00	0.4	41.61	4.70	7.03	11.00	948	1.93
KM-15	10/07/13	19:21:00	0.4	41.61	6.50	7.04	11.20	948	2.27
KM-16	10/07/13	18:36:00		57.82	STATIC				
KM-16	10/07/13	18:37:00	0.6	57.91	0.50	7.04	10.50	1070	4.47
KM-16	10/07/13	18:42:00	0.6	57.91	4.50	7.03	11.50	1070	3.03
KM-16	10/07/13	18:45:00	0.6	57.91	5.60	7.03	11.80	1070	1.97
KM-16	10/07/13	18:48:00	0.6	57.91	7.60	7.03	12.20	1071	1.73
KM-17	10/07/13	17:55:00		26.91	STATIC				
KM-17	10/07/13	17:58:00	0.3	27.12	0.60	7.13	10.90	1032	2.87
KM-17	10/07/13	18:01:00	0.3	27.17	1.50	7.14	10.80	1057	2.24
KM-17	10/07/13	18:04:00	0.3	27.18	2.80	7.15	11.30	1071	2.25
KM-17	10/07/13	18:08:00	0.3	27.18	4.00	7.14	11.90	1082	1.74
KM-17	10/07/13	18:12:00	0.3	27.20	5.50	7.14	12.50	1080	1.30
KM-18	10/07/13	19:30:00		64.40	STATIC				
KM-18	10/07/13	19:32:00	0.5	64.52	0.60	7.14	9.80	929	2.27
KM-18	10/07/13	19:35:00	0.5	64.52	2.30	7.08	9.90	938	2.22
KM-18	10/07/13	19:38:00	0.5	64.52	4.40	7.07	10.00	939	3.26
KM-18	10/07/13	19:43:00	0.5	64.51	6.30	7.09	10.60	940	2.03
KM-18	10/07/13	19:46:00	0.5	64.51	7.60	7.08	10.90	941	1.74
KM-19	10/08/13	14:17:00		31.19	STATIC				
KM-19	10/08/13	14:20:00	0.8	31.21	1.80	7.14	10.00	833	6.28
KM-19	10/08/13	14:24:00	0.8	31.20	5.00	7.14	10.00	833	6.76
KM-19	10/08/13	14:27:00	0.8	31.20	6.50	7.13	10.20	832	26.30
KM-19	10/08/13	14:29:00	0.8	31.20	9.00	7.14	10.70	832	11.20
KM-19	10/08/13	14:33:00	0.8	31.20	11.10	7.15	10.80	832	3.86
KM-19	10/08/13	14:35:00	0.8	31.20	13.90	7.16	10.90	832	2.24

TABLE 2
GROUND AND SURFACE WATER
SAMPLE COLLECTION AND ANALYSIS

Well ID or Spring Name	Total Depth of Well (ft)	Sampling Sequence	General Indicators, Anion, and Cations	Unfiltered Metals	SVOCs	TPH
KM-2	57	4	X	X		
KM-3	49	5	X	X		
KM-4	54	7	X	X		
KM-5	48	14	X	X		
KM-6	45	9	X	X		
KM-7	56	15	X	X		
KM-8	45	20	X	X	X	X
KM-9	58	17	X	X		
KM-11	100	6	X	X		
KM-12	155	19	X	X		
KM-13	56	16	X	X		
KM-15	54	12	X	X		
KM-16	73	11	X	X		
KM-17	48	10	X	X		
KM-18	172	13	X	X		
KM-19	218	18	X	X		
Finch Spring	N/A	3	X	X		
Big Spring	N/A	8	X	X		
Upper Ledger Spring	N/A	1	X	X		
Lower Ledger Spring	N/A	2	X	X		

TABLE 3
GROUND WATER PARAMETER AND ANALYTICAL METHODS (4)

Analyte	**Analytical Method (1)**	**Holding Time**	**Reporting Limit (2)**	**Accuracy Range (LCS/MS) (3)**
Alkalinity	SM2320B	14 Days	5.0 mg/l	90-110
Total Dissolved Solids	2540C	7 Days	10.0 mg/l	86-110
Turbidity	N/A	Analyze in field		
pH	N/A	Analyze in field		
Specific Conductance	2510B	28 Days	2.0 umhos/cm	90-110
Ion Balance	1030F & API			
Bicarbonate	SM2320B	14 Days	5.0 mg/l	90-110
Carbonate	SM2320B	14 Days	5.0 mg/l	90-110
Chloride	300.0A	28 Days	3.0 mg/l	90-110
Fluoride	340.2	28 Days	0.1 mg/l	90-110
Nitrate+Nitrite	353.2	28 Days	0.1 mg/l	90-110
Sulfate	300.0A	28 Days	5.0 mg/l	90-110
Total Metals				
Metals Digestion	SW846 3010A			
Calcium	SW846 6010B	6 Months	200 ug/l	90-111
Magnesium	SW846 6010B	6 Months	200 ug/l	62-146
Potassium	SW846 6010B	6 Months	500 ug/l	76-132
Sodium	SW846 6010B	6 Months	2000 ug/l	70-203
Total Aluminum	SW846 6010B	6 Months	100 ug/l	83-119
Total Arsenic	6020 (ICP/MS)	6 Months	5.0 ug/l	85-117
Total Barium	SW846 6010B	6 Months	10 ug/l	85-120
Total Cadmium	SW846 6010B	6 Months	5.0 ug/l	82-119
Total Cobalt	SW846 6010B	6 Months	10 ug/l	82-119
Total Copper	SW846 6010B	6 Months	20 ug/l	82-129
Total Manganese	SW846 6010B	6 Months	10 ug/l	79-121
Total Iron	SW846 6010B	6 Months	10 ug/l	52-155
Total Molybdenum	SW846 6010B	6 Months	20 ug/l	83-109
Total Nickel	SW846 6010B	6 Months	40 ug/l	84-120
Total Silver	SW846 6010B	6 Months	10 ug/l	75-141
Total Vanadium	SW846 6010B	6 Months	10 ug/l	85-120
Organics	**Analytical Method (1,2)**	**Holding Time**	**Reporting Limit (3)**	
TPH C-10 – C-36	SW846 6010B	28 Days	1.0 mg/l	57-115
Semi-Volatile Organic Compounds	8270C	7 Days (extraction) 40 Days (analysis)	Compound/ dilution-specific	Compound specific

TABLE 3
GROUND WATER PARAMETER AND ANALYTICAL METHODS
(Continued)

1. Methods for Chemical Analysis of Water and Waste, EPA-600/4-79/020, EMSL, Cincinnati, OH, 1983.

2. Reporting Limits, reported by Test America, May 2013. Reporting limits vary with dilution.

3. Percent Recovery Laboratory Control Sample/Matrix Spike reported by Test America, May 2013.

4. Relative percent difference for duplicates for field and lab is 20 percent. Acceptance criteria for the data are 90 percent for completeness.

TABLE 4

October 2013 Blind Duplicate Sample Relative Percent Difference

PROJECT ID	SAMPLE ID	DATE	CAS NO.	CHEMICAL NAME	VALUE	UNITS	DET. LIMIT	DET. QUAL	QUAL	VALIDATIO	ALIQUOT
280-47658-19	13-Oct	10/08/13	477923700	Alkalinity, Bicarb. as CaCO3 at pH 4.5	430	mg/L	5				SA
280-47658-16	KM-6	10/07/13	477923700	Alkalinity, Bicarb. as CaCO3 at pH 4.5	430	mg/L	5				SA
RPD					**0.00**						
280-47658-19	13-Oct	10/08/13	477730600	Alkalinity, Carb. CaCO3 at pH 8.3	ND	mg/L	5				SA
280-47658-16	KM-6	10/07/13	477730600	Alkalinity, Carb. CaCO3 at pH 8.3	ND	mg/L	5				SA
RPD					**ND**						
280-47658-19	13-Oct	10/08/13	477423700	Alkalinity, Hydrox, as CaCO3	ND	mg/L	5				SA
280-47658-16	KM-6	10/07/13	477423700	Alkalinity, Hydrox, as CaCO3	ND	mg/L	5				SA
RPD					**ND**						
280-47658-19	13-Oct	10/08/13	477520600	Alkalinity, Total as CaCO3 at pH 4.5	430	mg/L	5				SA
280-47658-16	KM-6	10/07/13	477520600	Alkalinity, Total as CaCO3 at pH 4.5	430	mg/L	5				SA
RPD					**0.00**						
280-47658-19	13-Oct	10/08/13	7429-90-5	Aluminum	ND	ug/L	100				SA
280-47658-16	KM-6	10/07/13	7429-90-5	Aluminum	ND	ug/L	100				SA
RPD					**ND**						
280-47658-19	13-Oct	10/08/13	7440-38-2	Arsenic	4	ug/L	5	J			SA
280-47658-16	KM-6	10/07/13	7440-38-2	Arsenic	4	ug/L	5	J			SA
RPD					**0.00**						
280-47658-19	13-Oct	10/08/13	7440-39-3	Barium	41	ug/L	10				SA
280-47658-16	KM-6	10/07/13	7440-39-3	Barium	43	ug/L	10				SA
RPD					**4.76**						
280-47658-19	13-Oct	10/08/13	7440-43-9	Cadmium	0.86	ug/L	5	J			SA
280-47658-16	KM-6	10/07/13	7440-43-9	Cadmium	0.74	ug/L	5	J			SA
RPD					**15.00**						
280-47658-19	13-Oct	10/08/13	7440-70-2	Calcium	110000	ug/L	200	B			SA
280-47658-16	KM-6	10/07/13	7440-70-2	Calcium	110000	ug/L	200	B			SA
RPD					**0.00**						
280-47658-19	13-Oct	10/08/13	16887-00-6	Chloride	43	mg/L	3				SA
280-47658-16	KM-6	10/07/13	16887-00-6	Chloride	43	mg/L	3				SA
RPD					**0.00**						
280-47658-19	13-Oct	10/08/13	7440-48-4	Cobalt	ND	ug/L	10				SA
280-47658-16	KM-6	10/07/13	7440-48-4	Cobalt	ND	ug/L	10				SA
RPD					**ND**						
280-47658-19	13-Oct	10/08/13	7440-50-8	Copper	3.2	ug/L	15	J			SA
280-47658-16	KM-6	10/07/13	7440-50-8	Copper	3.4	ug/L	15	J			SA
RPD					**6.06**						

TABLE 4

October 2013 Blind Duplicate Sample Relative Percent Difference

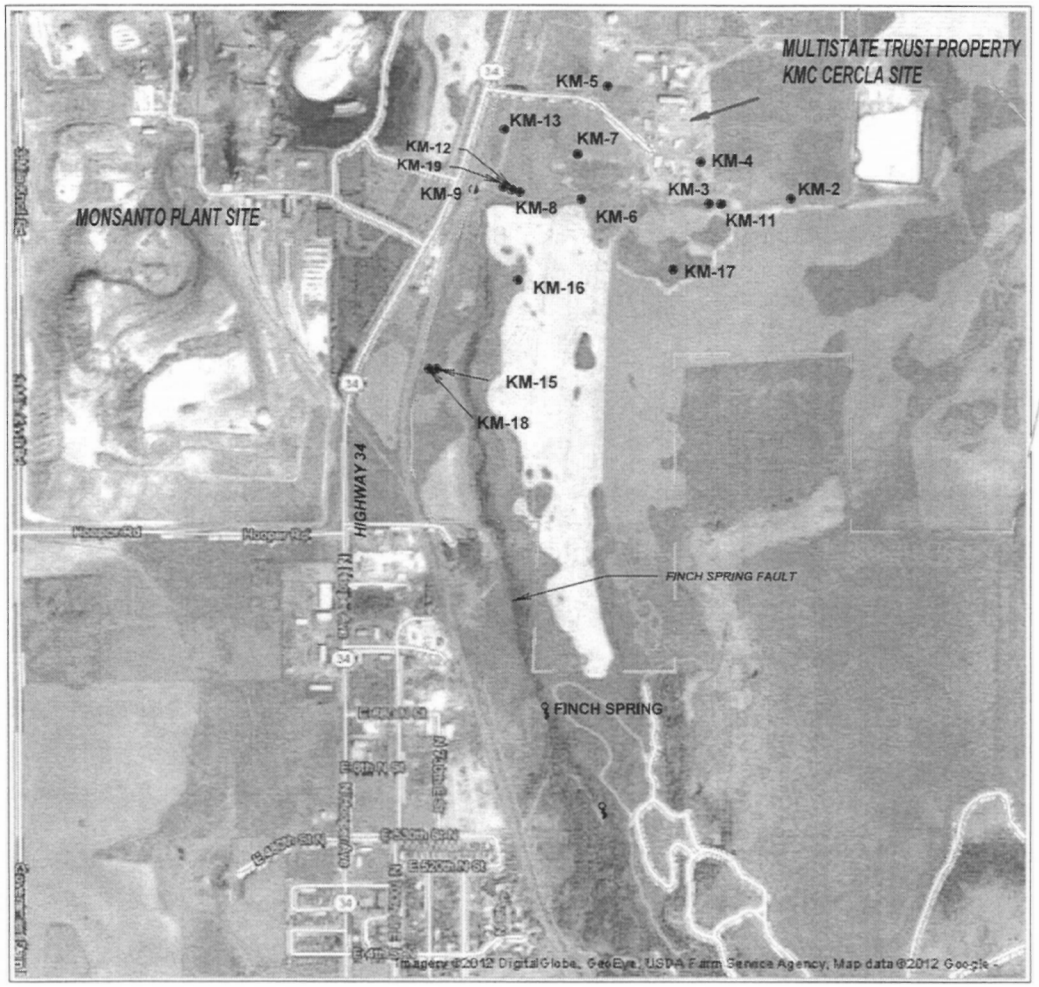
PROJECT ID	SAMPLE ID	DATE	CAS NO.	CHEMICAL NAME	VALUE	UNITS	DET. LIMIT	DET. QUAL	QUAL	VALIDATIO	ALIQUOT
280-47658-19	13-Oct	10/08/13	16984-48-8	Fluoride	0.25	mg/L	0.5	J			SA
280-47658-16	KM-6	10/07/13	16984-48-8	Fluoride	0.25	mg/L	0.5	J			SA
RPD					**0.00**						
280-47658-19	13-Oct	10/08/13	5597414200	Ion Balance Difference	-0.99	%					SA
280-47658-16	KM-6	10/07/13	5597414200	Ion Balance Difference	-0.16	%					SA
RPD					**144.35**						
280-47658-19	13-Oct	10/08/13	7439-89-6	Iron	ND	ug/L	100				SA
280-47658-16	KM-6	10/07/13	7439-89-6	Iron	ND	ug/L	100				SA
RPD					**ND**						
280-47658-19	13-Oct	10/08/13	7439-95-4	Magnesium	39000	ug/L	200	B			SA
280-47658-16	KM-6	10/07/13	7439-95-4	Magnesium	40000	ug/L	200	B			SA
RPD					**2.53**						
280-47658-19	13-Oct	10/08/13	7439-96-5	Manganese	150	ug/L	10	B			SA
280-47658-16	KM-6	10/07/13	7439-96-5	Manganese	150	ug/L	10	B			SA
RPD					**0.00**						
280-47658-19	13-Oct	10/08/13	7439-98-7	Molybdenum	940	ug/L	20				SA
280-47658-16	KM-6	10/07/13	7439-98-7	Molybdenum	960	ug/L	20				SA
RPD					**2.11**						
280-47658-19	13-Oct	10/08/13	7440-02-0	Nickel	1.7	ug/L	40	J			SA
280-47658-16	KM-6	10/07/13	7440-02-0	Nickel	1.6	ug/L	40	J			SA
RPD					**6.06**						
280-47658-19	13-Oct	10/08/13	1005	Nitrate plus Nitrite as N	5.7	mg/L	0.1				SA
280-47658-16	KM-6	10/07/13	1005	Nitrate plus Nitrite as N	5.8	mg/L	0.1				SA
RPD					**1.74**						
280-47658-19	13-Oct	10/08/13	9/7/7440	Potassium	9300	ug/L	3000				SA
280-47658-16	KM-6	10/07/13	9/7/7440	Potassium	9600	ug/L	3000				SA
RPD					**3.17**						
280-47658-19	13-Oct	10/08/13	7440-22-4	Silver	ND	ug/L	10				SA
280-47658-16	KM-6	10/07/13	7440-22-4	Silver	ND	ug/L	10				SA
RPD					**ND**						
280-47658-19	13-Oct	10/08/13	7440-23-5	Sodium	86000	ug/L	1000				SA
280-47658-16	KM-6	10/07/13	7440-23-5	Sodium	89000	ug/L	1000				SA
RPD					**3.43**						
280-47658-19	13-Oct	10/08/13	1011	Specific Conductance at 25 deg C	1200	umhos/	2				SA
280-47658-16	KM-6	10/07/13	1011	Specific Conductance at 25 deg C	1200	umhos/	2				SA
RPD					**0.00**						

TABLE 4

October 2013 Blind Duplicate Sample Relative Percent Difference

PROJECT ID	SAMPLE ID	DATE	CAS NO.	CHEMICAL NAME	VALUE	UNITS	DET. LIMIT	DET. QUAL	QUAL	VALIDATIO	ALIQUOT
280-47658-19	13-Oct	10/08/13	14808-79-8	Sulfate	130	mg/L	25				SA
280-47658-16	KM-6	10/07/13	14808-79-8	Sulfate	130	mg/L	25				SA
RPD					**0.00**						
280-47658-19	13-Oct	10/08/13	520200	Total Anions	13	meq/L					SA
280-47658-16	KM-6	10/07/13	520200	Total Anions	13	meq/L					SA
RPD					**0.00**						
280-47658-19	13-Oct	10/08/13	5201700	Total Cations	13	meq/L					SA
280-47658-16	KM-6	10/07/13	5201700	Total Cations	13	meq/L					SA
RPD					**0.00**						
280-47658-19	13-Oct	10/08/13	1010	Total Dissolved Solids	680	mg/L	10	B			SA
280-47658-16	KM-6	10/07/13	1010	Total Dissolved Solids	670	mg/L	10	B			SA
RPD					**1.48**						
280-47658-19	13-Oct	10/08/13	7440-62-2	Vanadium	3400	ug/L	10				SA
280-47658-16	KM-6	10/07/13	7440-62-2	Vanadium	3500	ug/L	10				SA
RPD					**2.90**						

FIGURES



N

MULTISTATE TRUST PROPERTY BOUNDARY (APPROXIMATE)

SCALE IN FEET

0 500 1000 2000

SODA SPRINGS

UPPER LEDGER SPRING

LOWER LEDGER SPRING

BIG SPRING (FISH HATCHERY BY BEAR RIVER)

IDAHO MAP COVERAGE

OCTOBER 2013 DATA VALIDATION REPORT

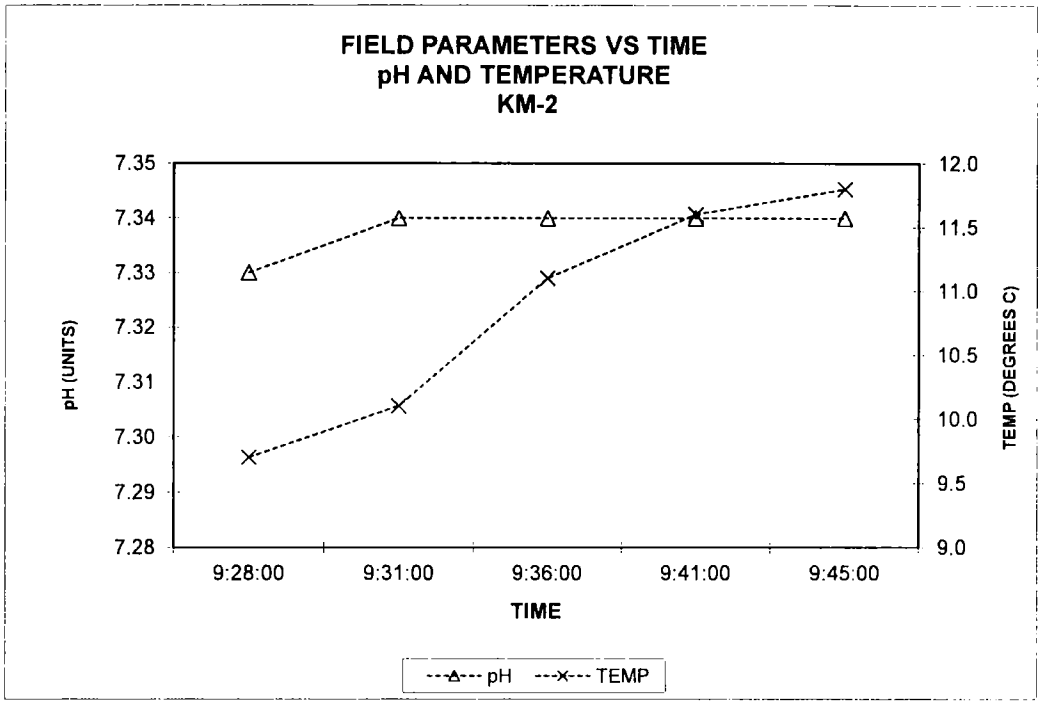
TITLE

GROUND AND SURFACE WATER SAMPLE LOCATIONS OCTOBER 2013

SIZE	CAGE CODE	DWG NO	REV
B		WATERSAMPLELOCATIONS.TCW	0

SCALE AS SHOWN SHEET FIGURE 1

OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS



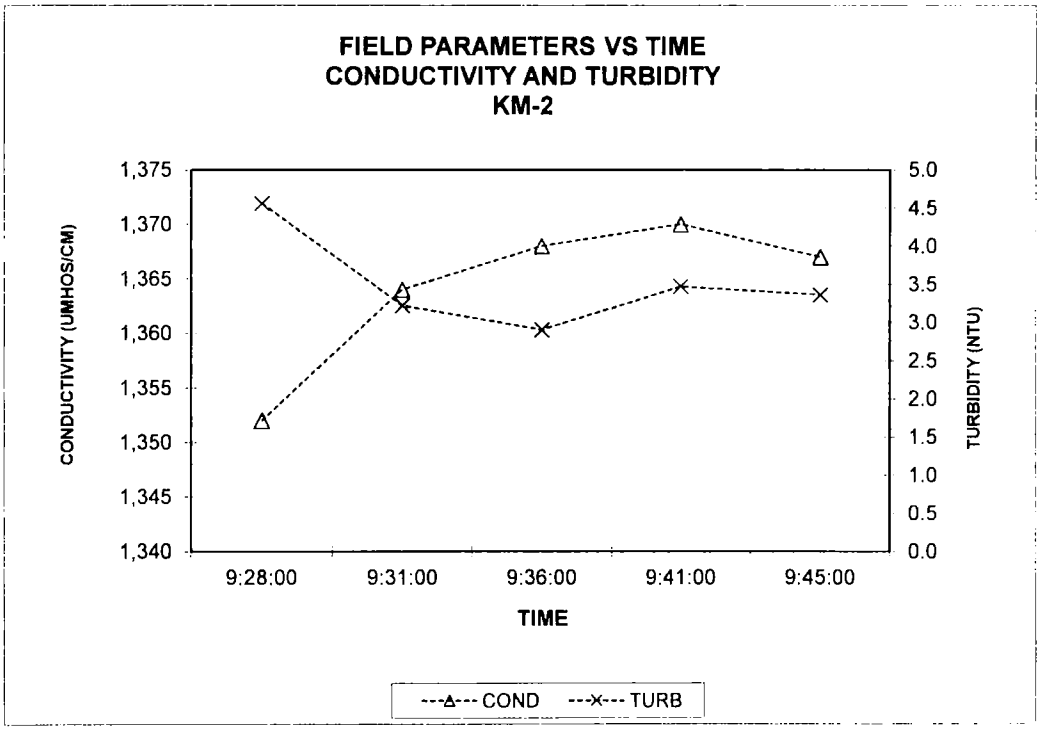
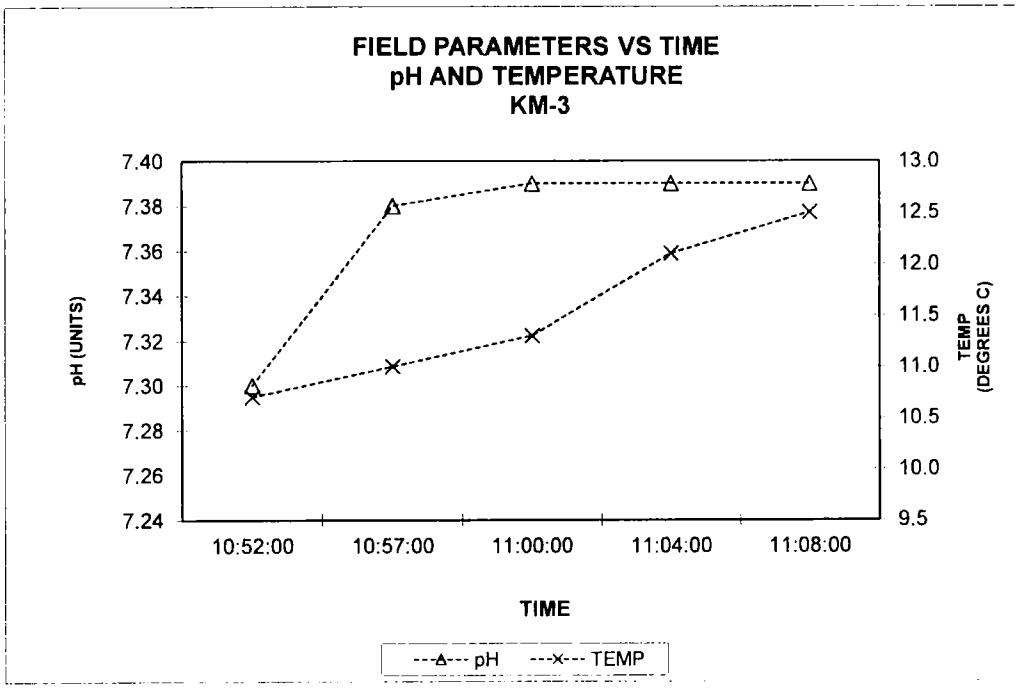


FIGURE 2

OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS



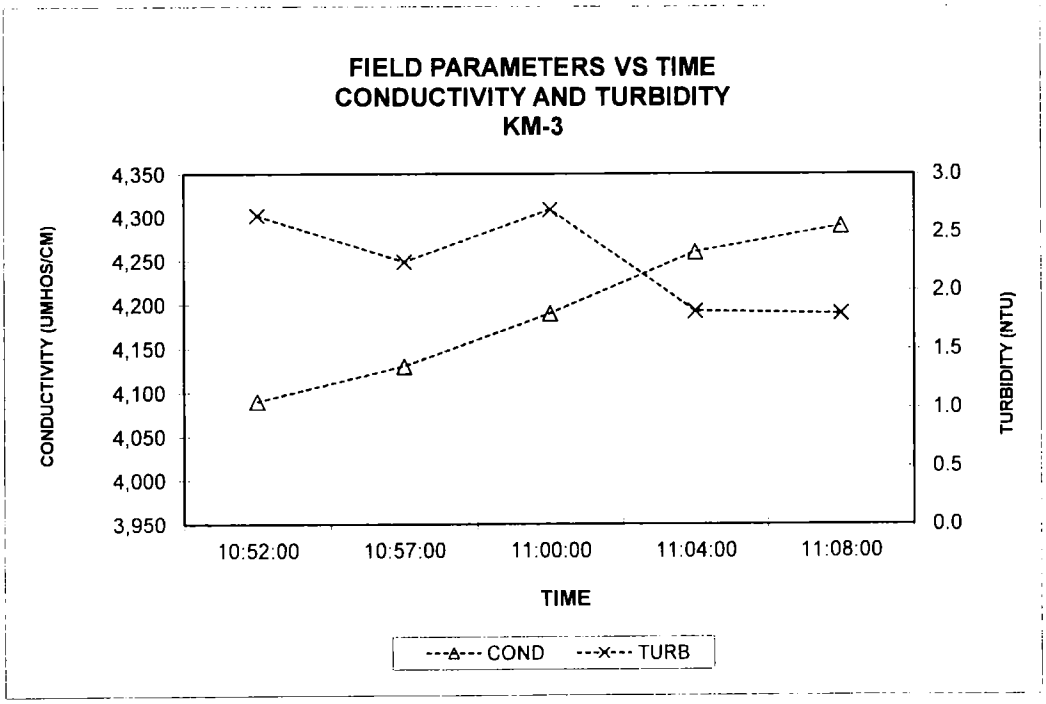
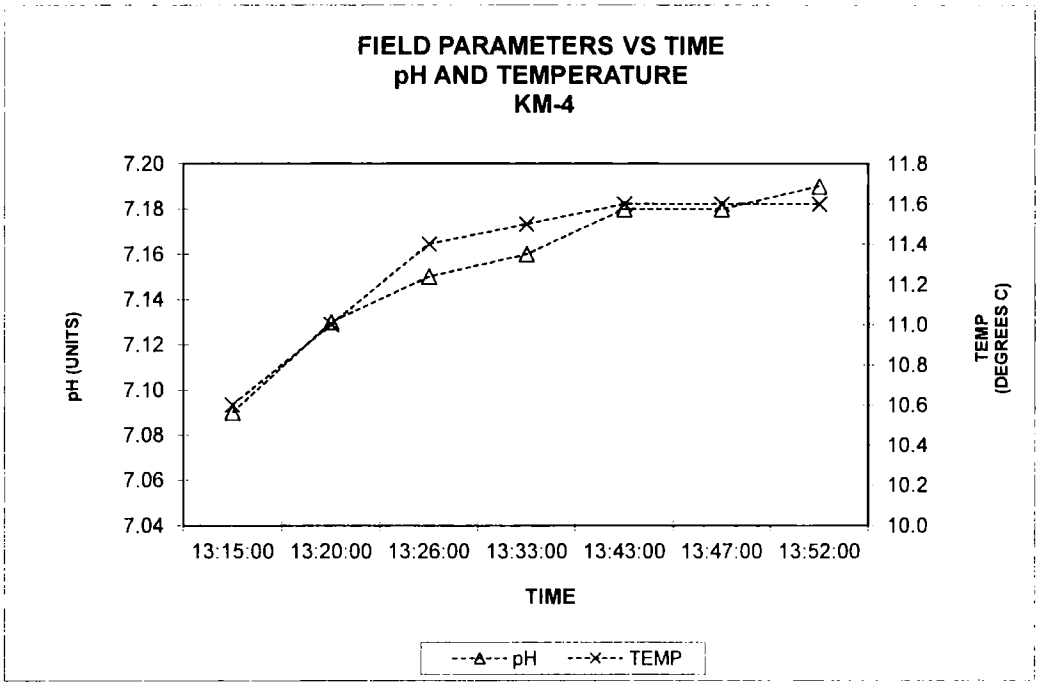


FIGURE 3

OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS



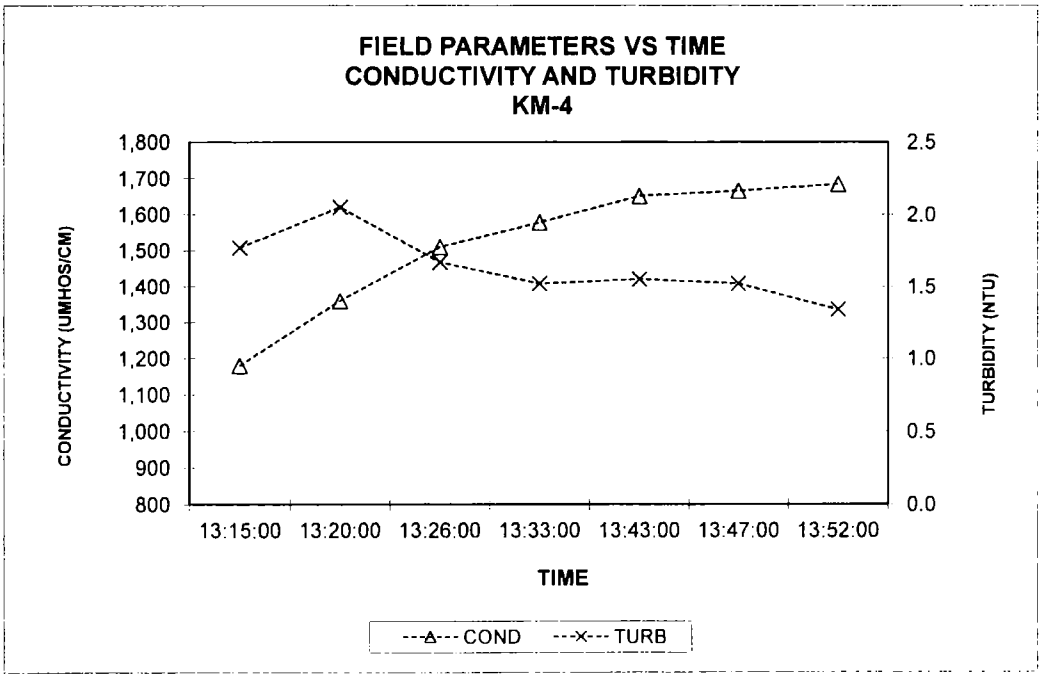
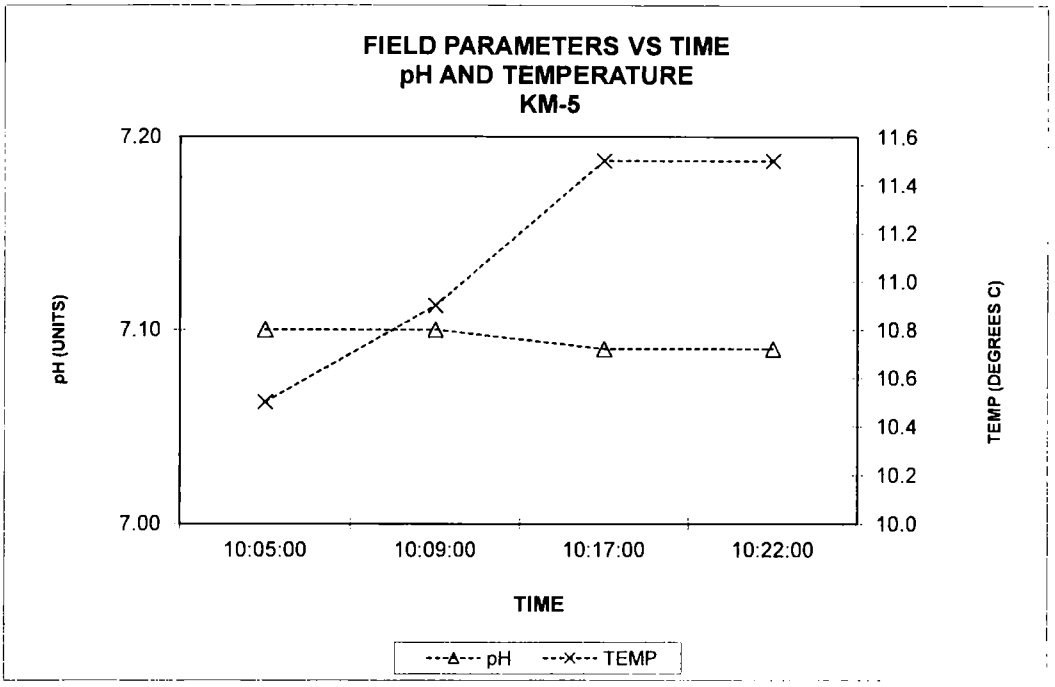


FIGURE 4

OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS



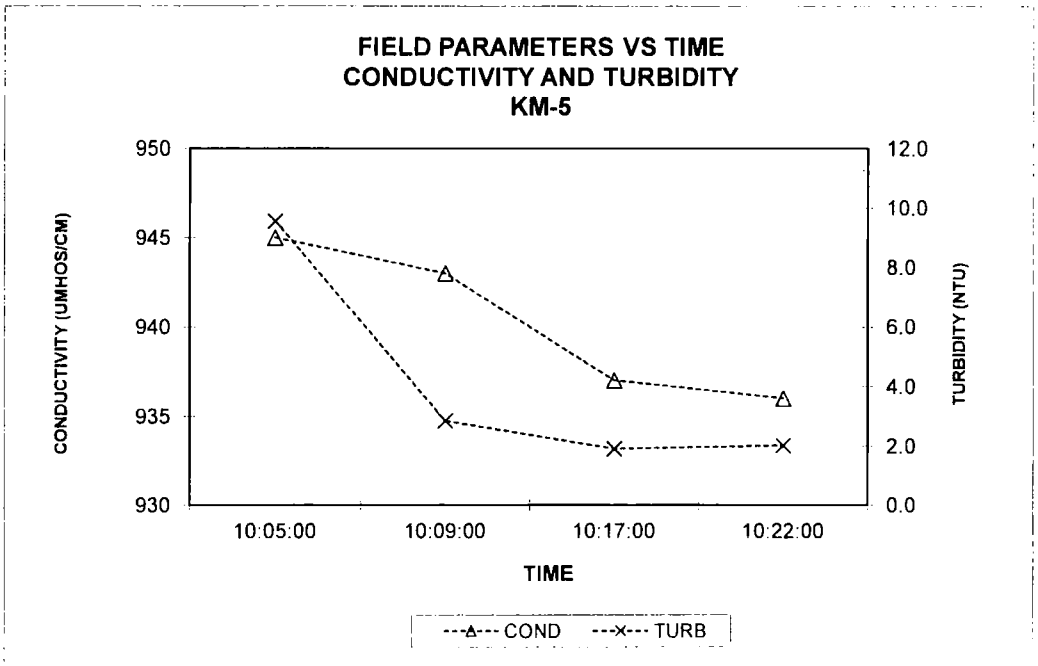
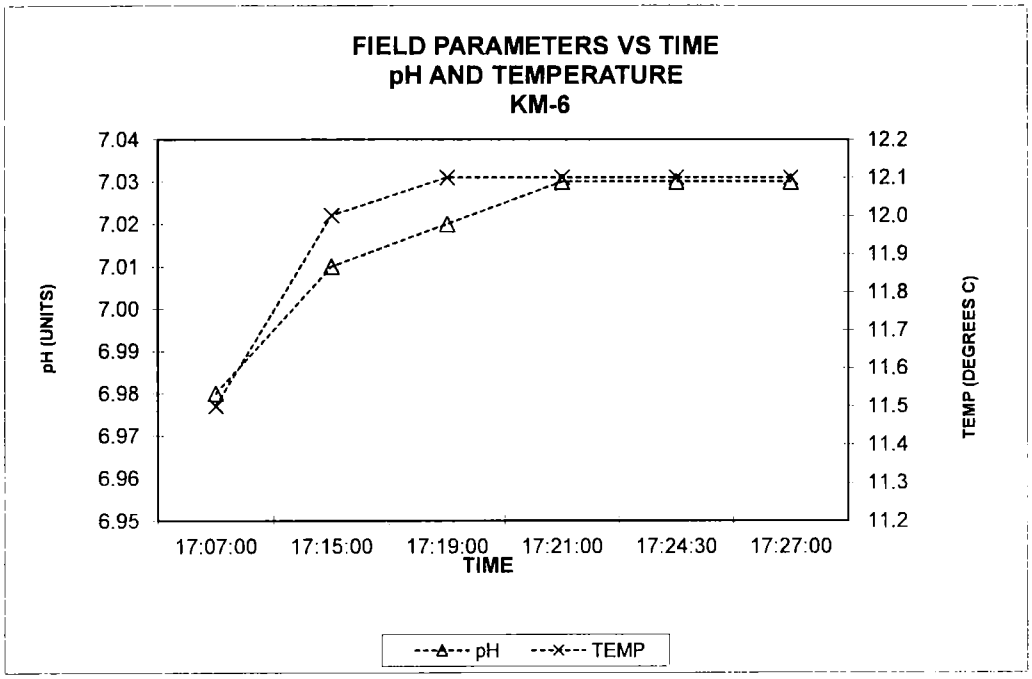


FIGURE 5

OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS



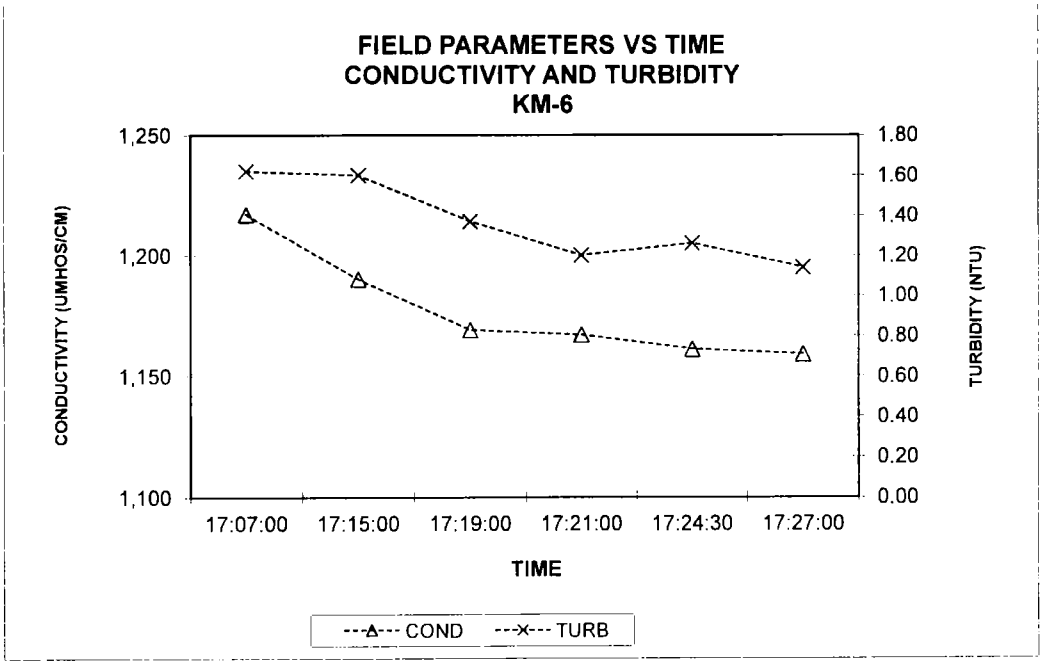
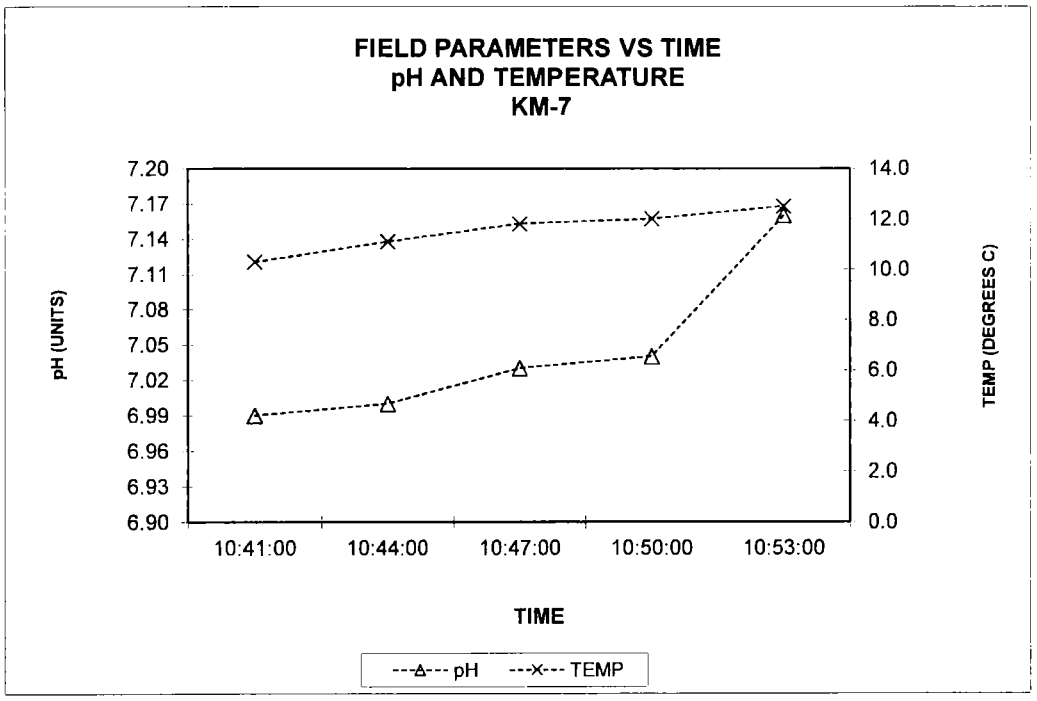


FIGURE 6

OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS



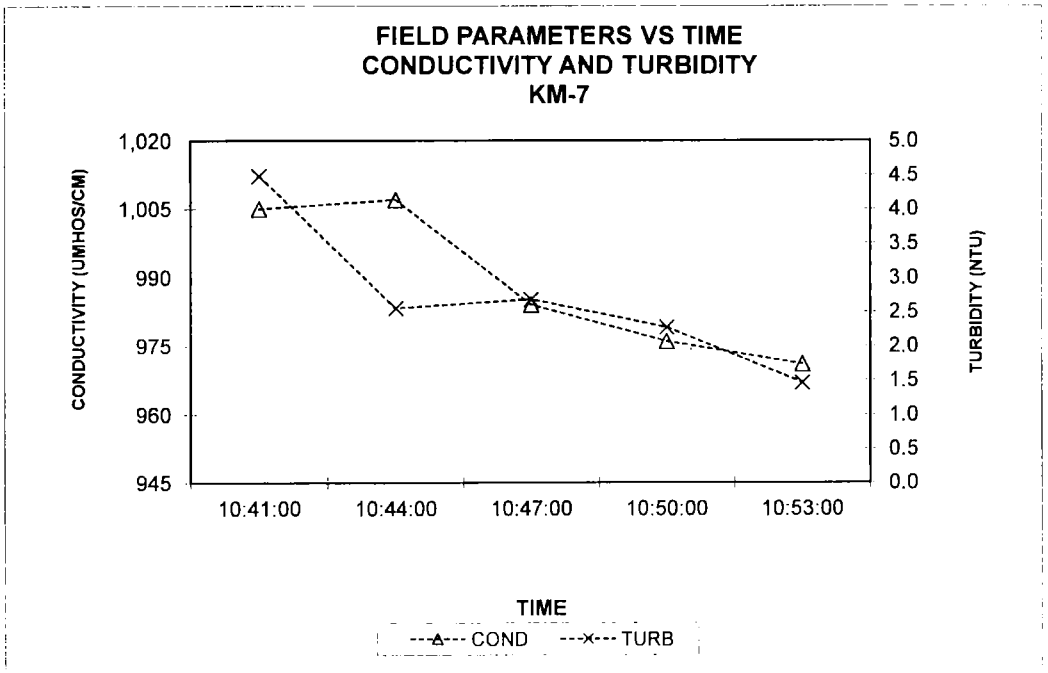
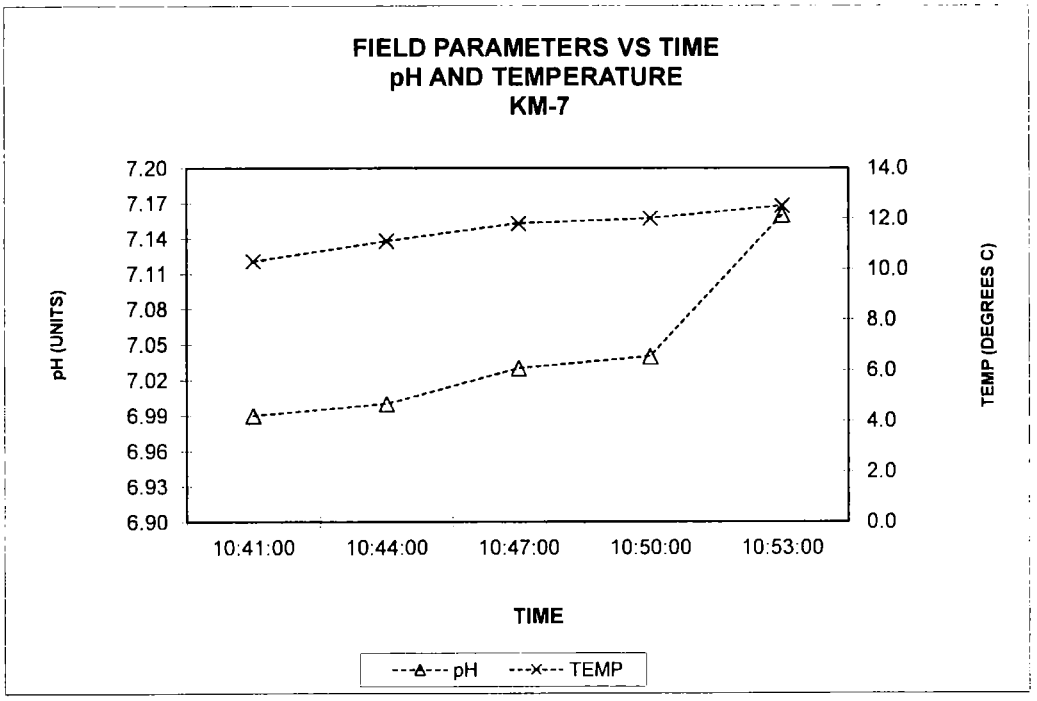


FIGURE 7

OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS



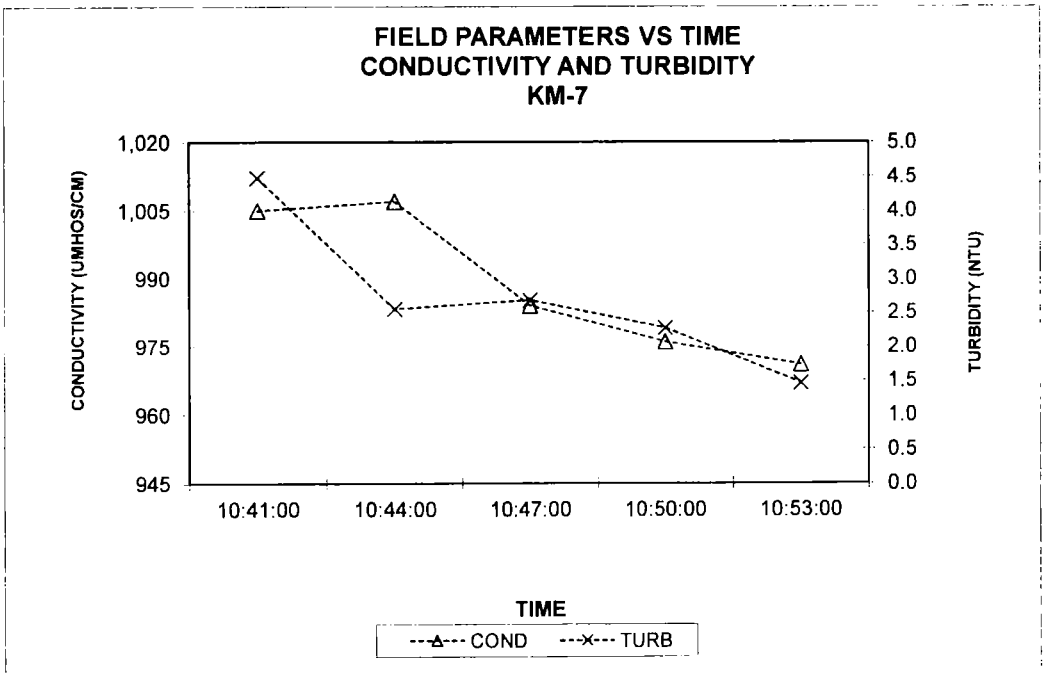
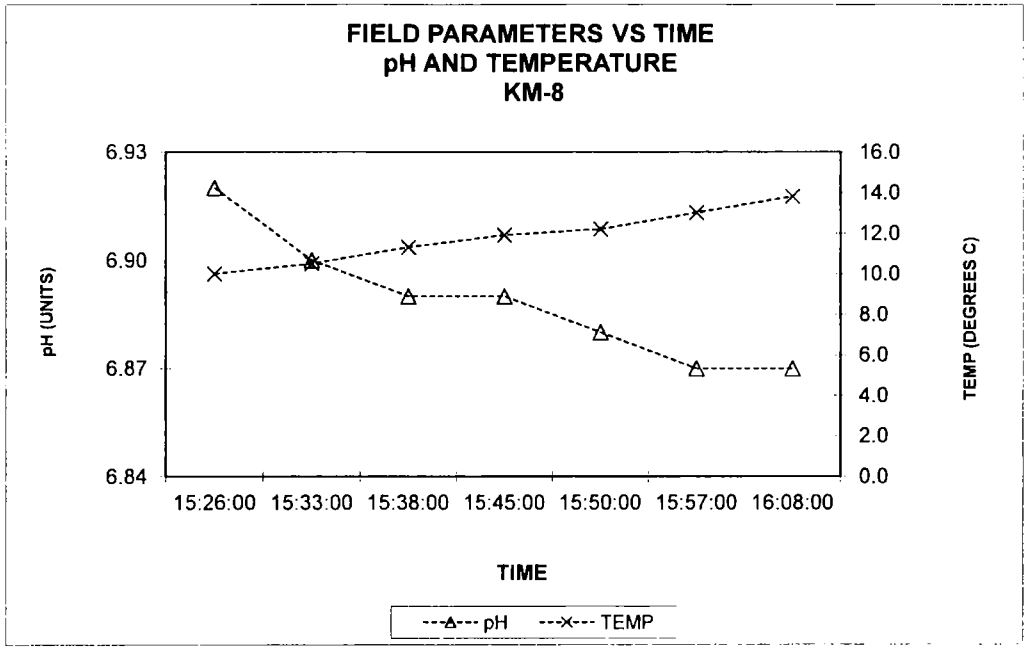


FIGURE 4

OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS



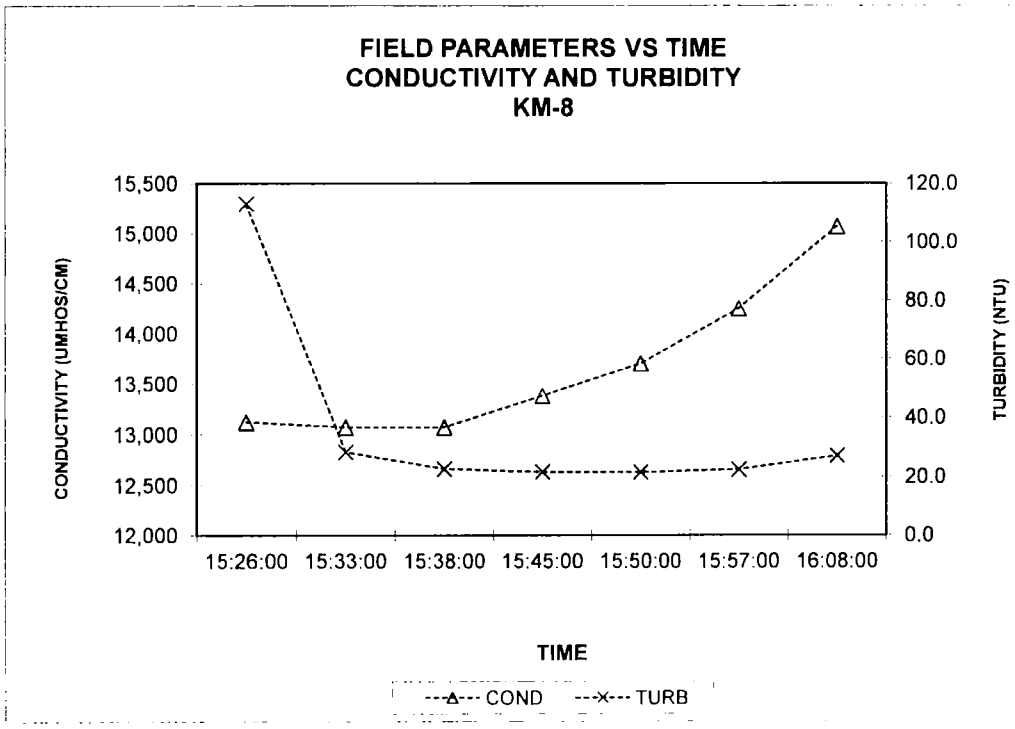
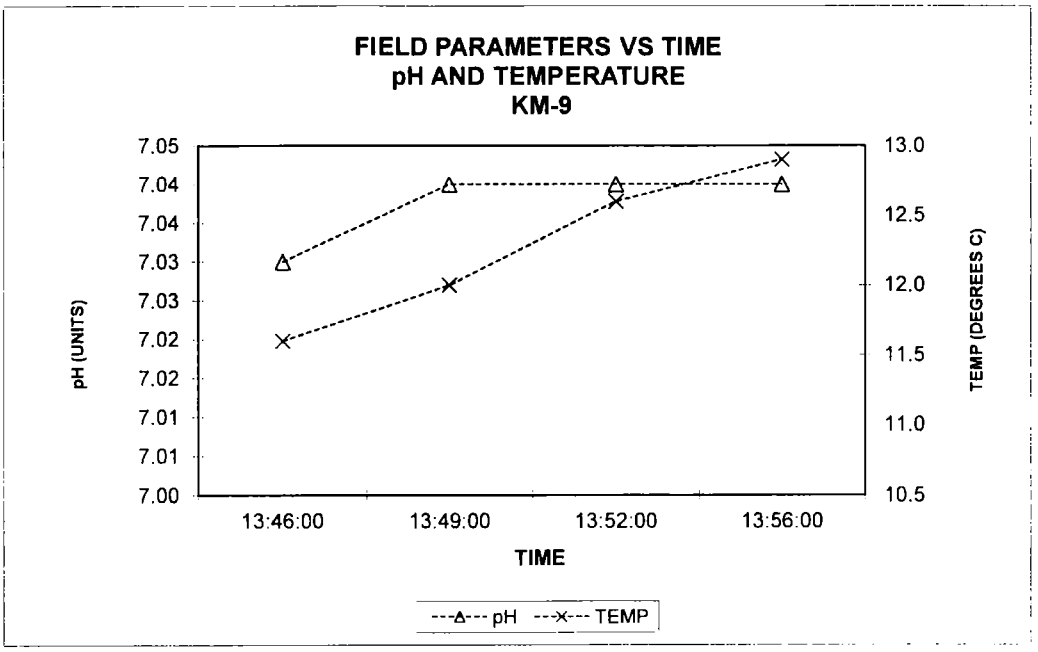


FIGURE 8

OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS



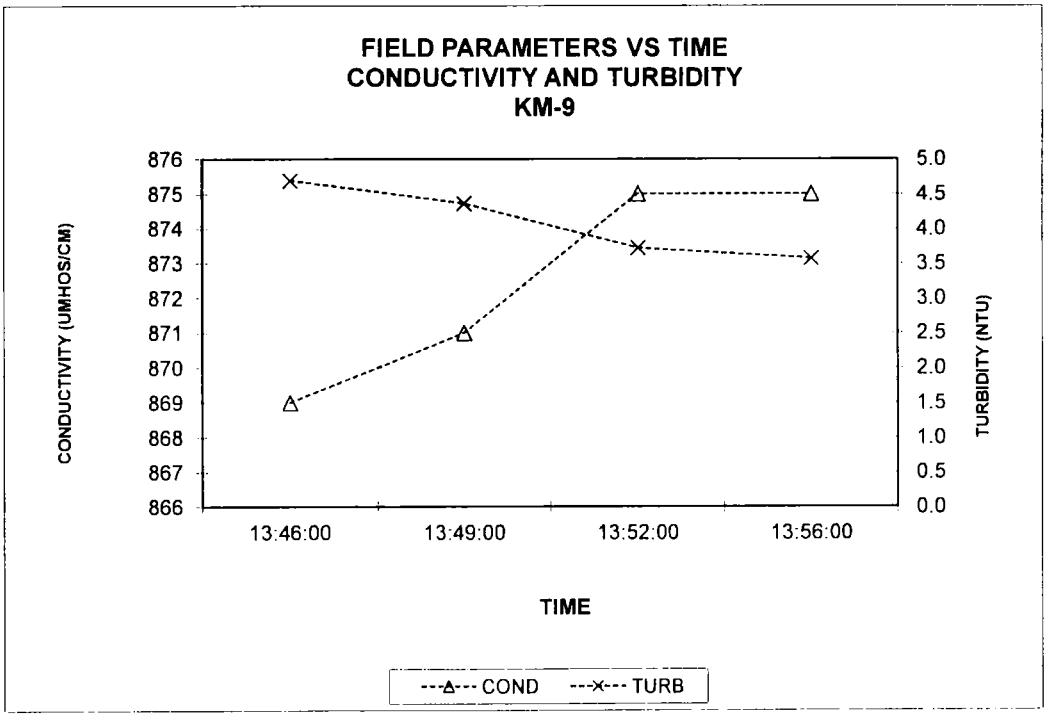
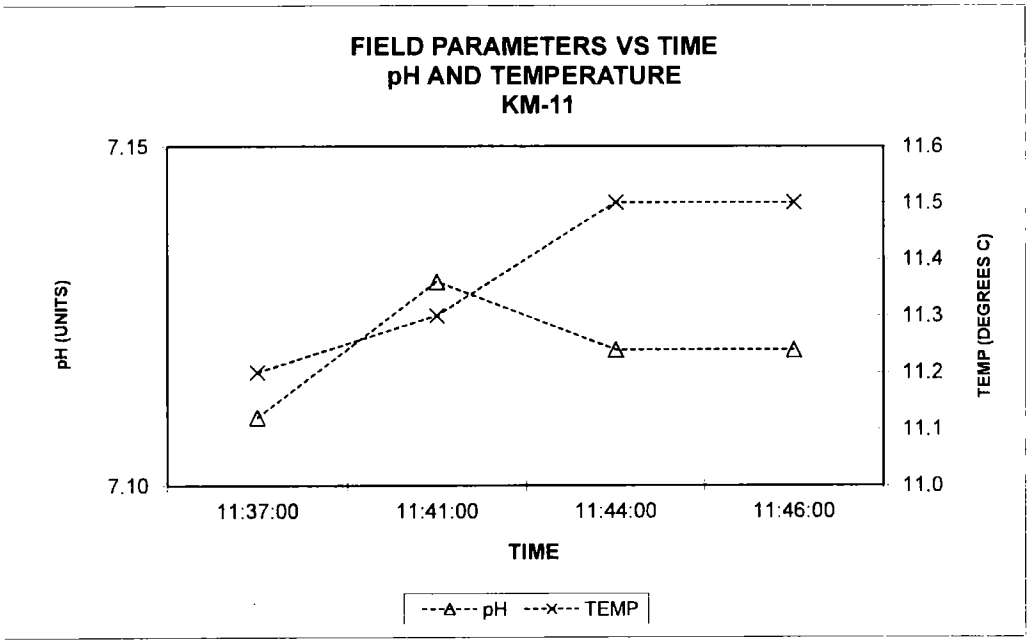


FIGURE 9

OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS



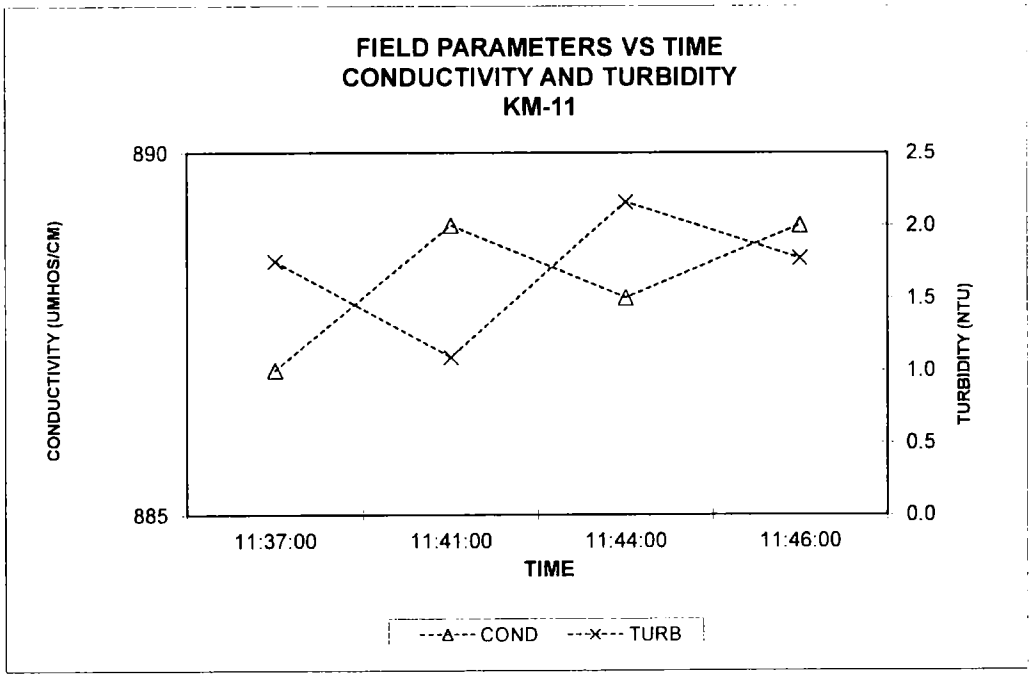
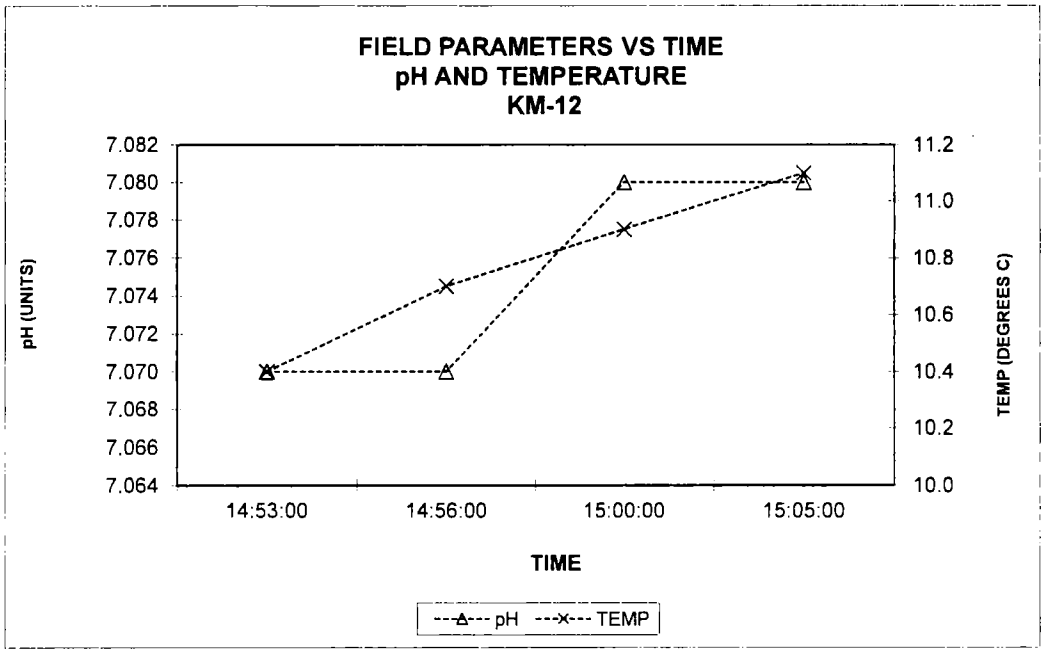


FIGURE 10

OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS



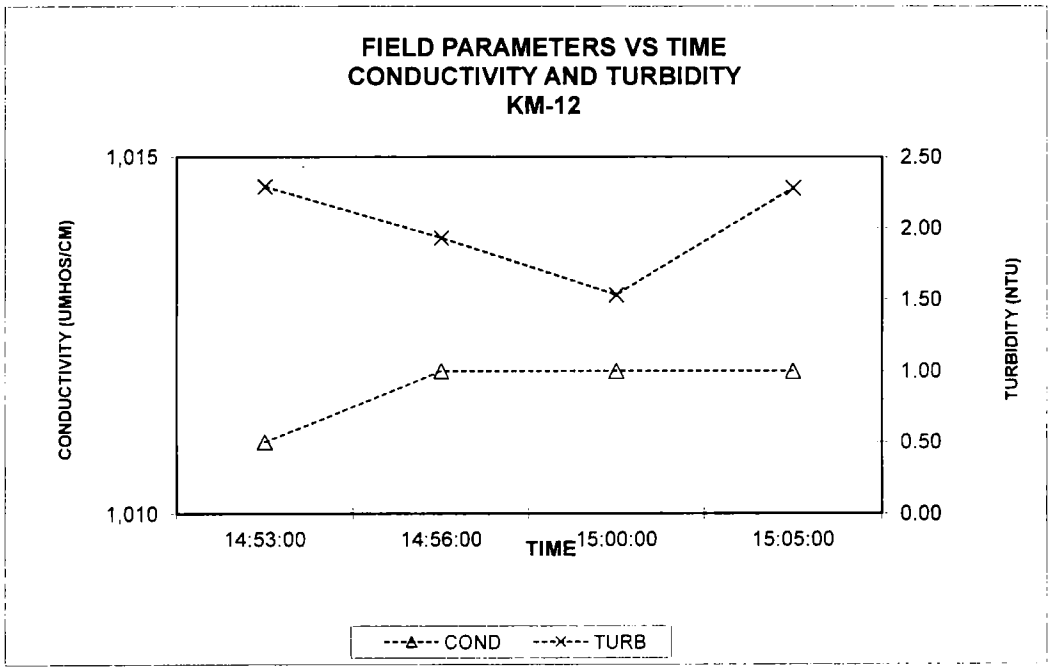
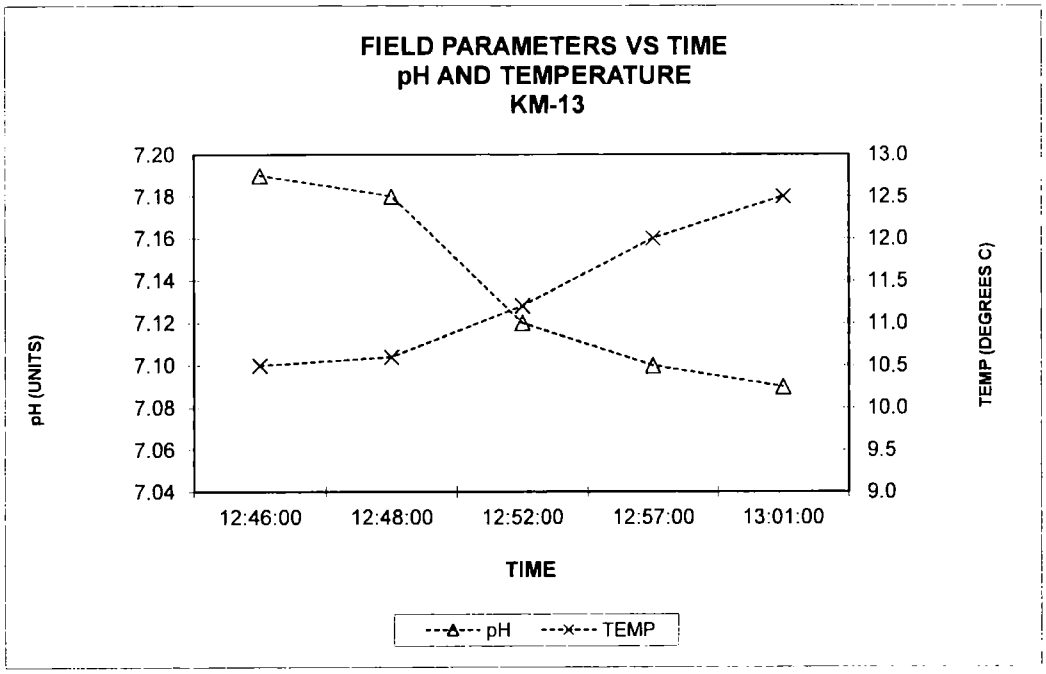


FIGURE 11

OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS



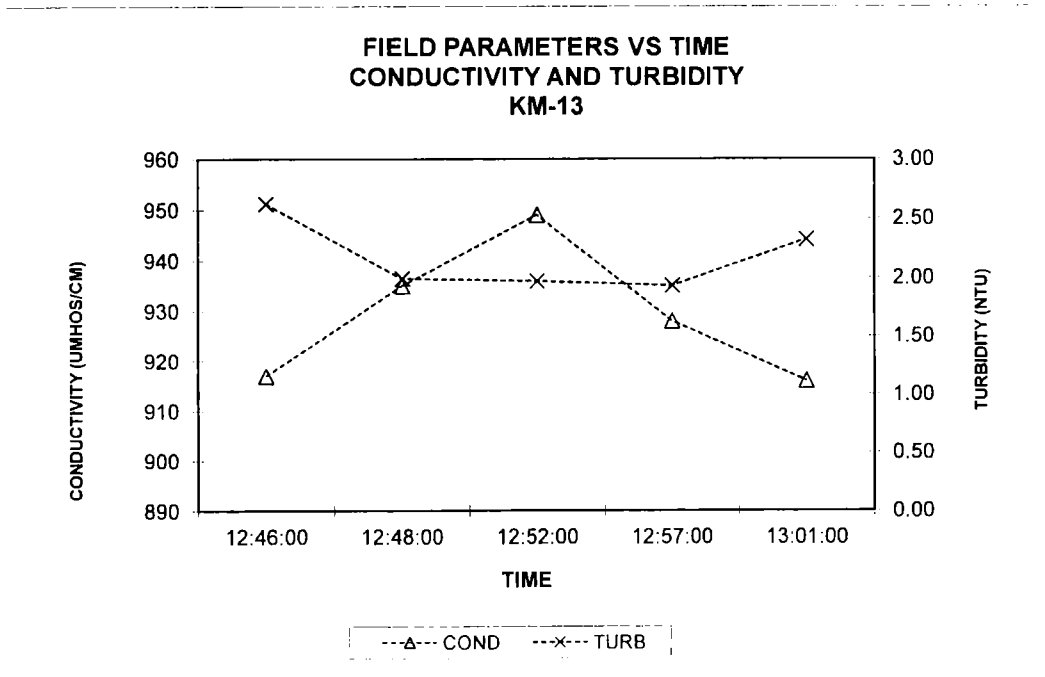
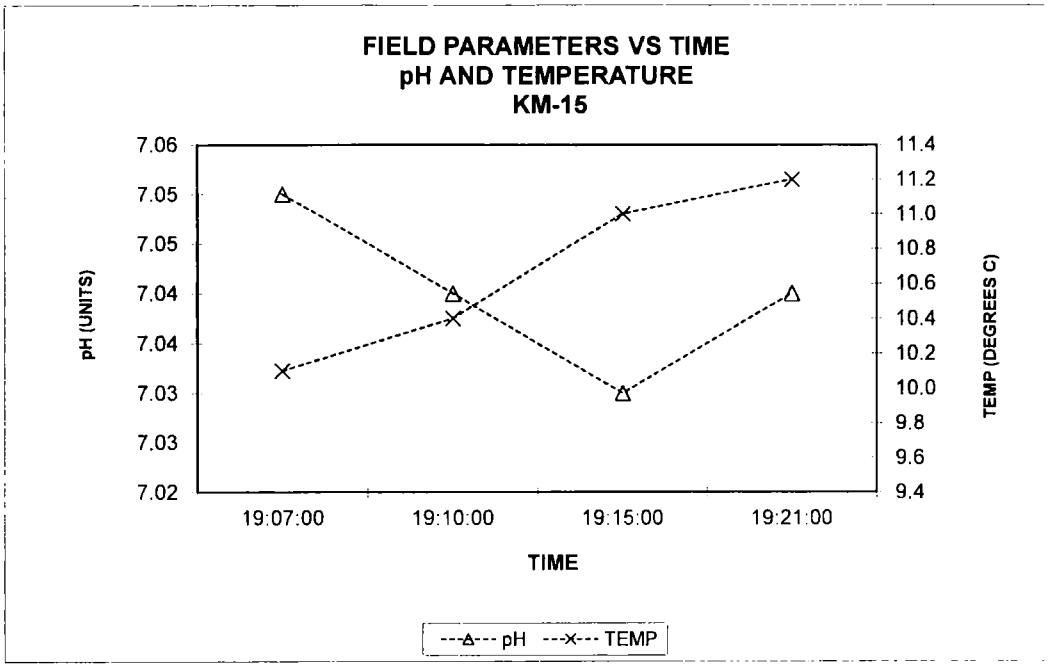


FIGURE 12

OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS



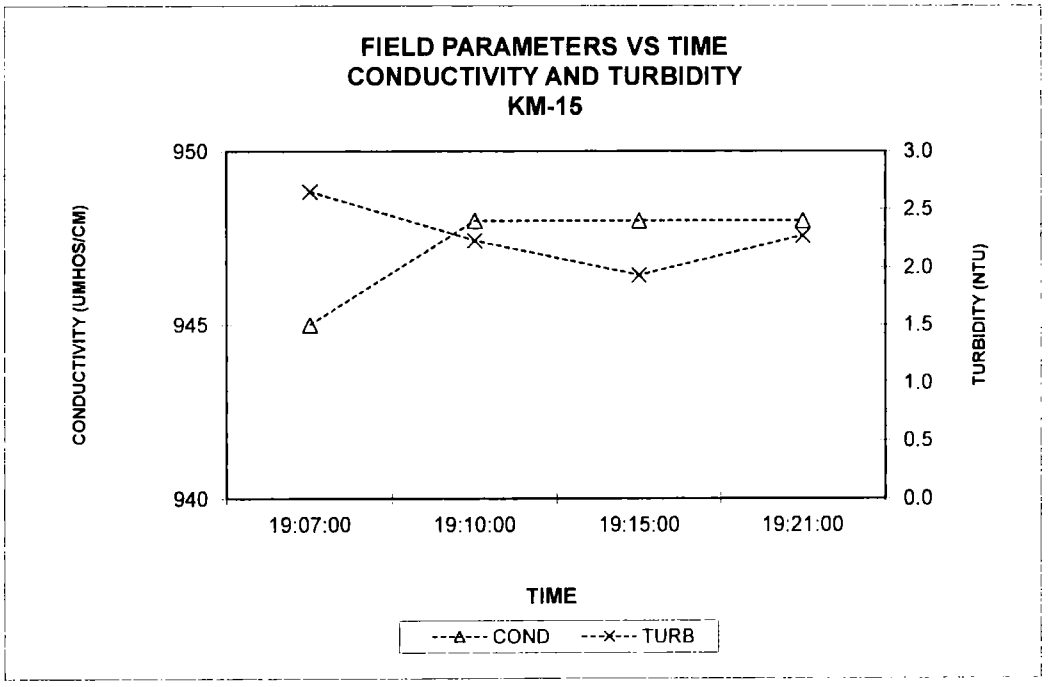
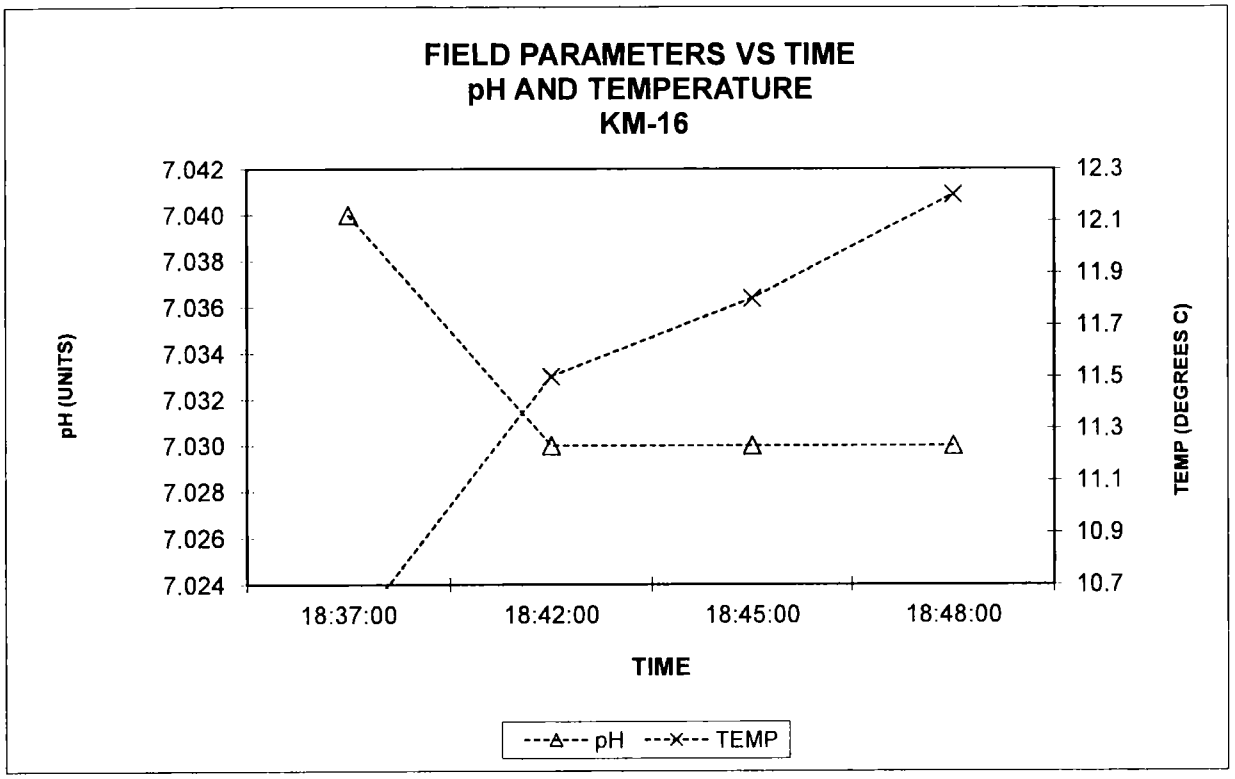


FIGURE 13

OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS



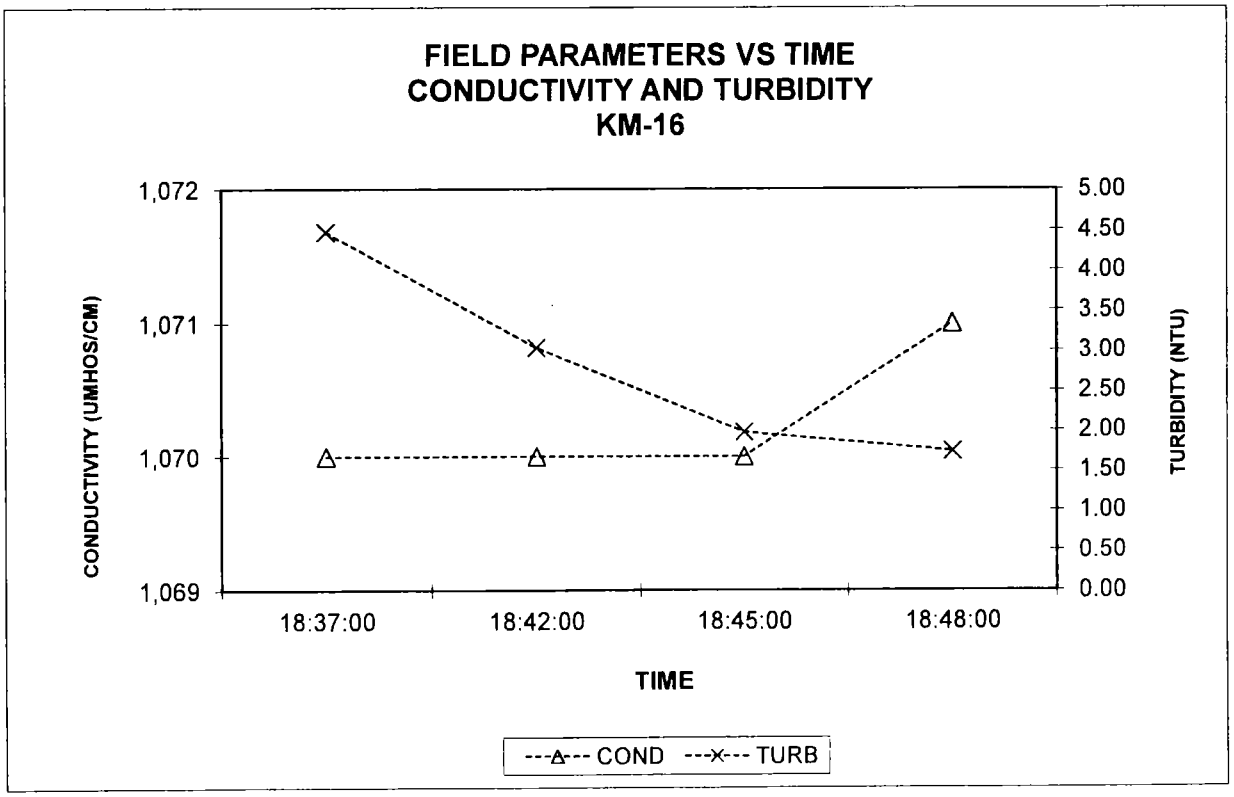
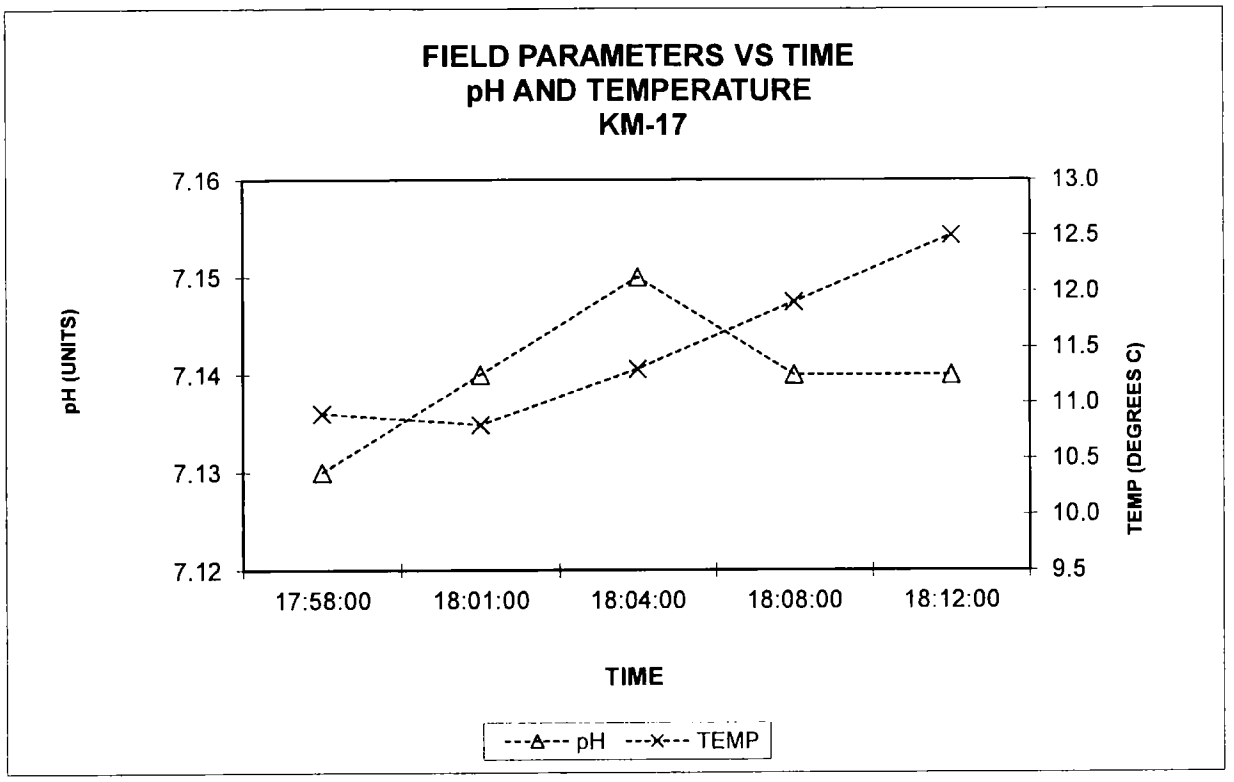


FIGURE 14

OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS



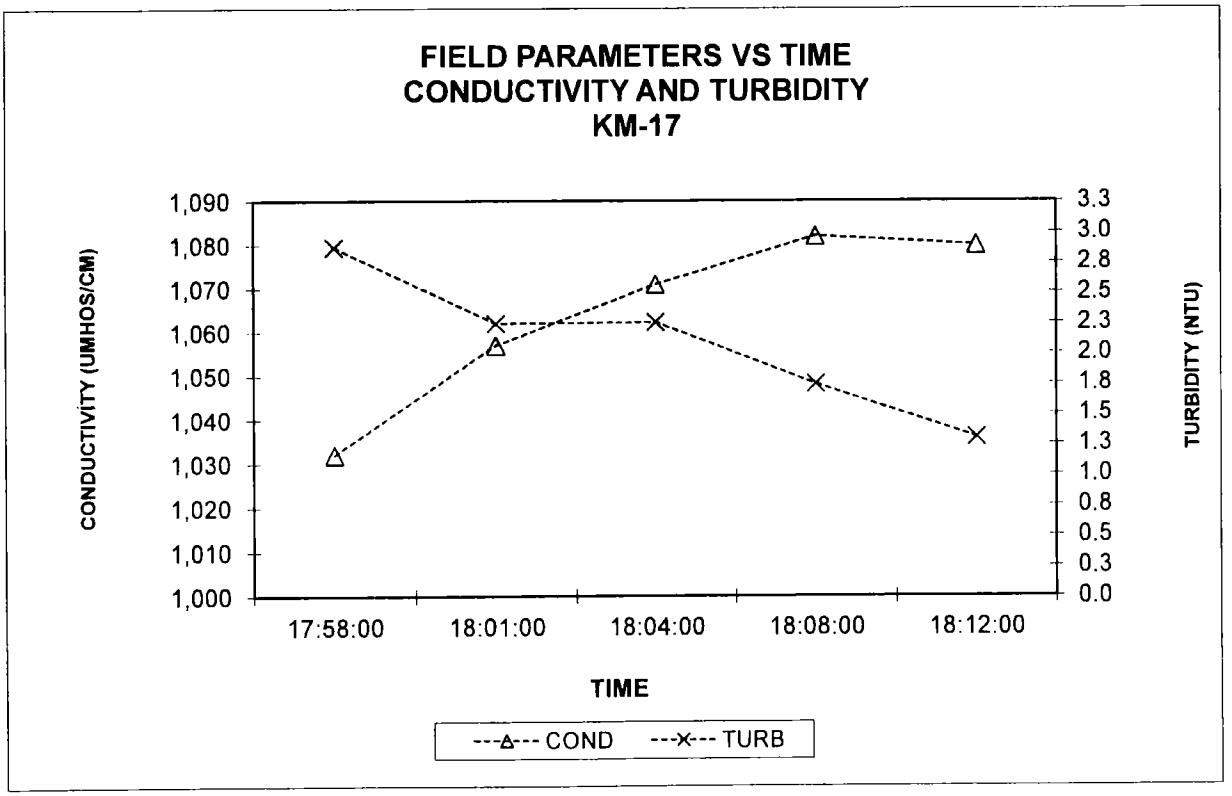
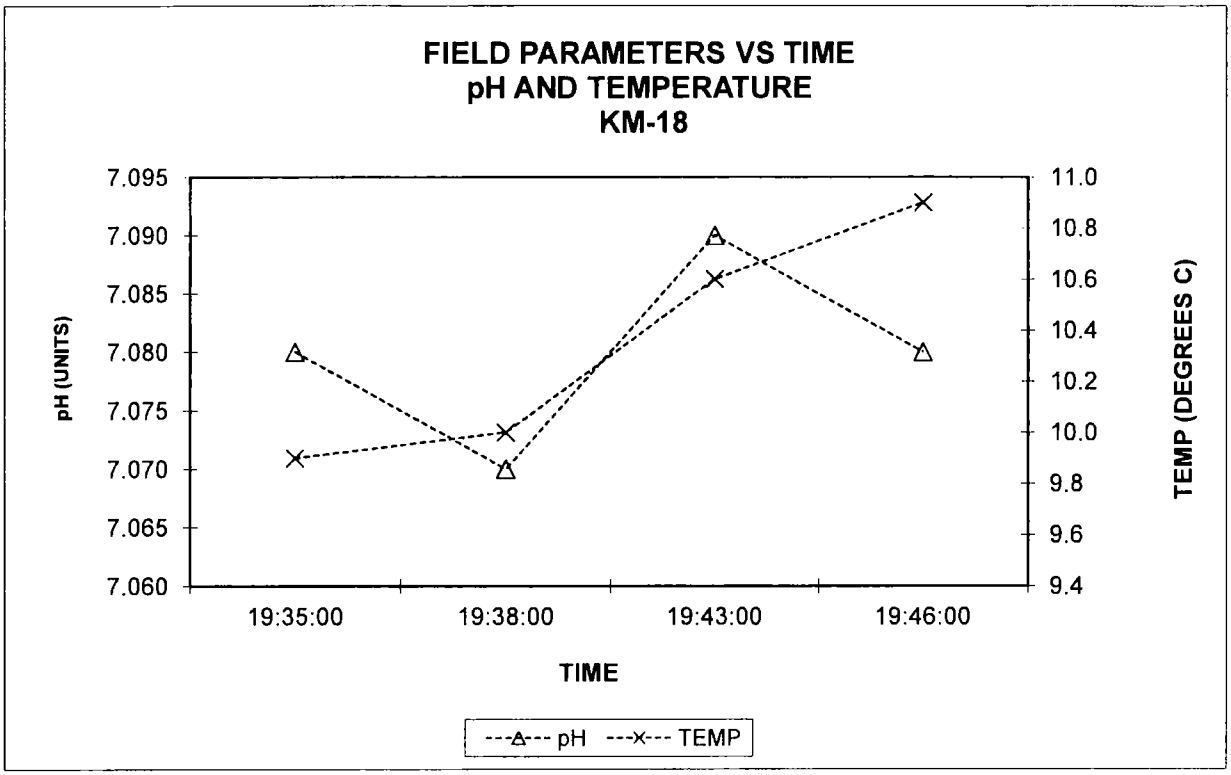


FIGURE 15

OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS



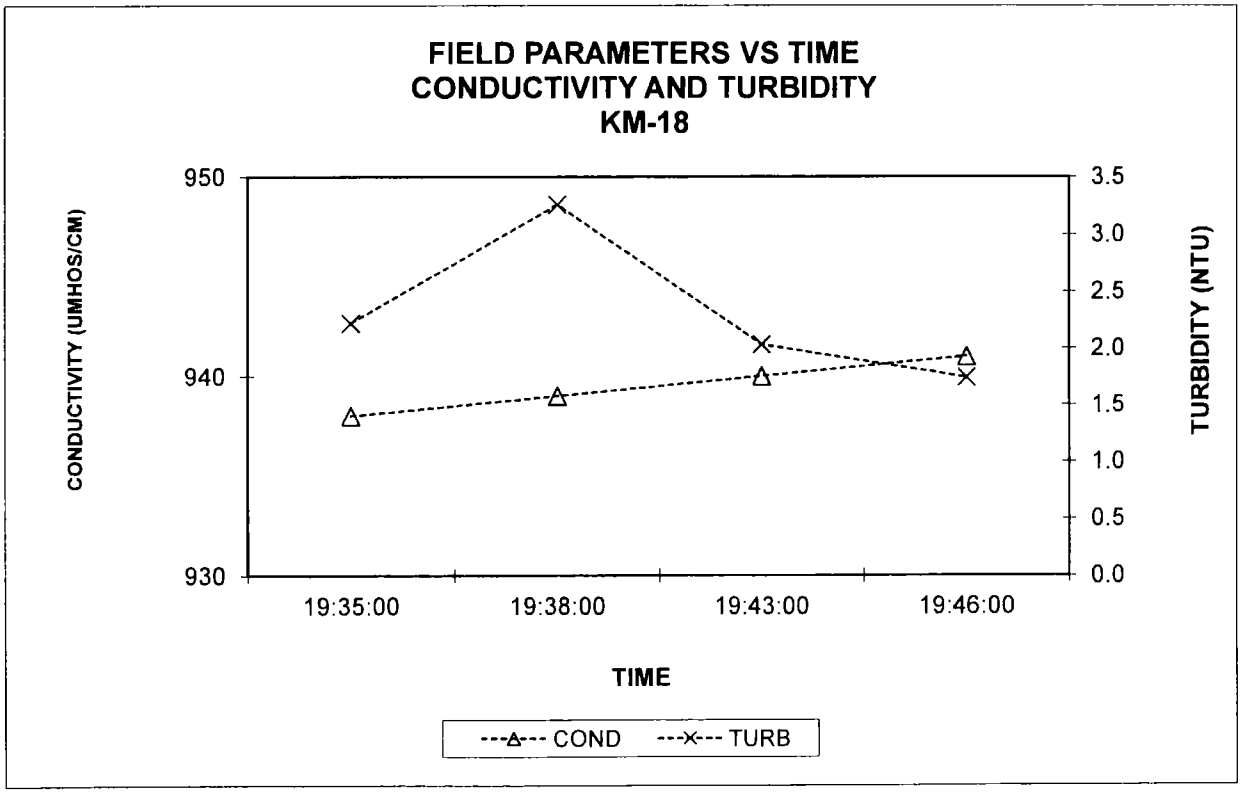
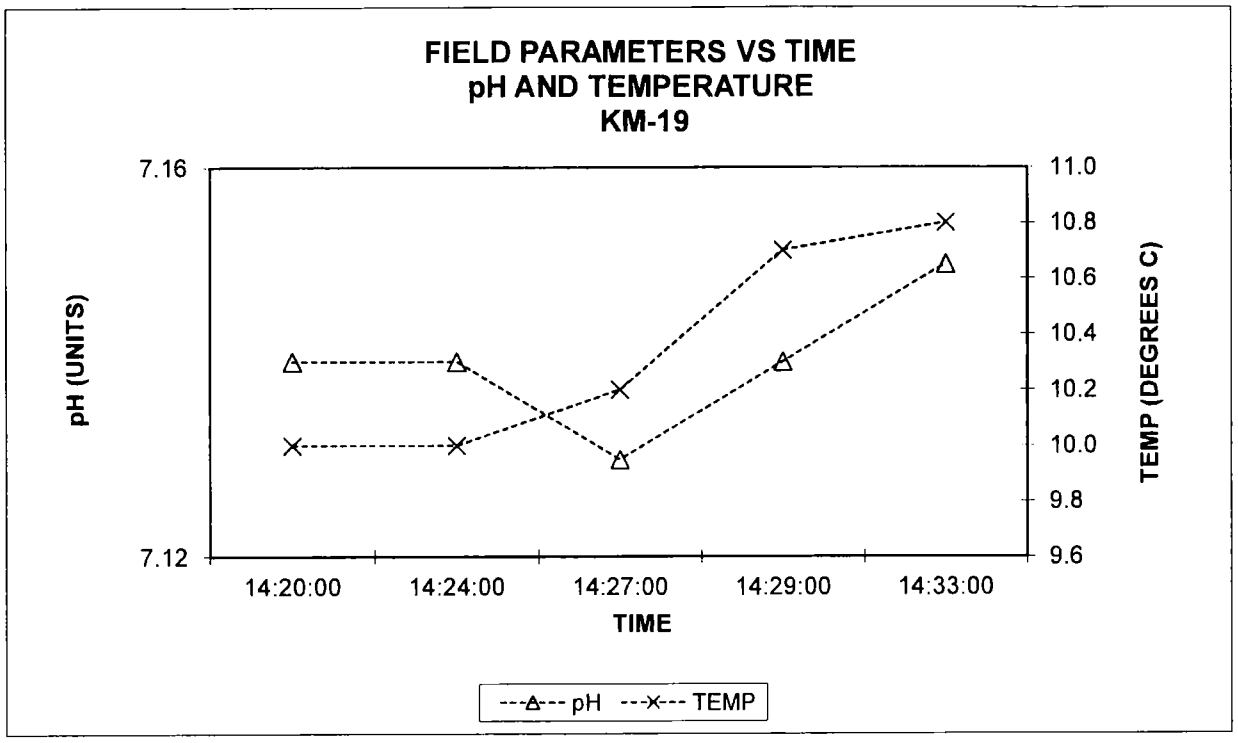


FIGURE 16

OCTOBER 2013 LOW-FLOW SAMPLING
FIELD WATER QUALITY PARAMETERS



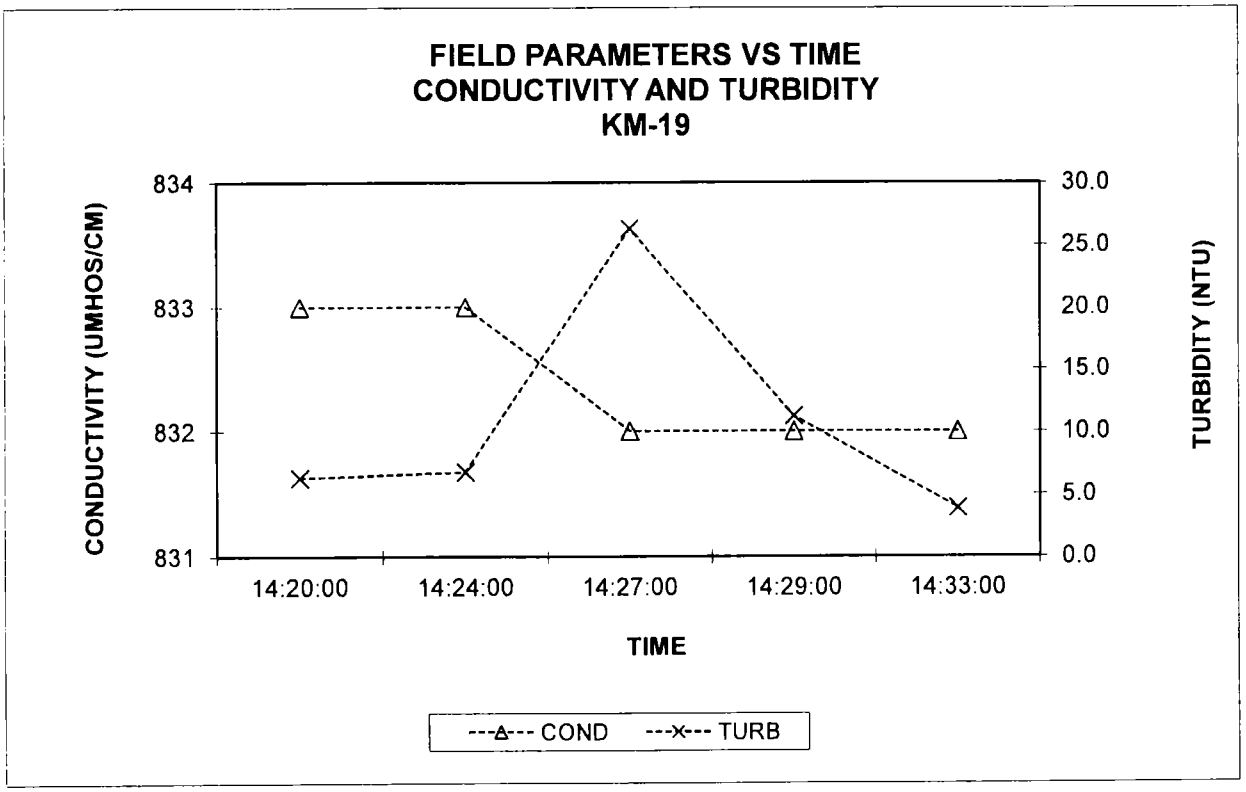


FIGURE 17

APPENDIX A

REMEDIAL DESIGN/REMEDIAL ACTION ANALYTICAL DATABASE

(ON DISK)